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THE HISTORICAL DEVELOPMENT OF GENOA SQUARE IN ACRE
ISRAEL FROM THE SEVENTH CENTURY TO THE PRESENT DAY

Amy Suzanne Hollander

A THESIS


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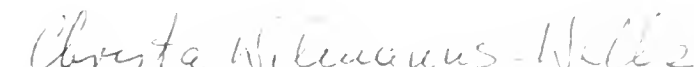
Historic Preservation

Presented to the Faculties of the University of Pennsylvania in
Partial Fulfillment of the Requirements for the Degree of

MASTER OF SCIENCE

1995


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ACKNOWLEDGEMENTS

The distance from which I am from this site has presented many difficulties. Because of this, thanks must be given to the Israeli Antiquities Authority and especially to my supervisor, Jakov Sheffer, and my co-worker, Moti Bar-tuv, who have gone out of their way to send me surveys, slides and information which is impossible to obtain in the States, and who made me feel at home while I was in Israel. I would like to thank my thesis advisor, Kathryn Gleason, for her time, historical knowledge, and editorial comments. At this time I would also like to thank my Aunt, Deborah Chassman, for her time, skill and editorial assistance in the final stages of this paper, my mother for being there when I needed her, and the rest of my family for understanding my stress.

INTRODUCTION

The following research stems from an internship project co-sponsored by the University of Pennsylvania and the Israeli Antiquities Authority to assist in the documentation of Genoa Square in Acre, Israel. Specifically, my part in this project was to document the building elevations in this square by preparing measured drawings which noted the building materials, condition and utilities. These drawings and recommendations subsequently formed the basis for a future restoration of the square. The project was conducted under the auspices of Jakov Shefer who also supervised the ongoing restoration of a Turkish mansion on the site.

The purpose of the following paper is to coordinate this visual survey with an historical outline of the development of the square; the structures, the space and its use, in order to create a plan for the restoration of Genoa Square, Acre. The historical outline is based on the two major twentieth century surveys conducted at the old city of Acre (Percy 1944, and Kesten 1962), each of which documented the footprints and archaeological remains of the structures. Also used were a series of historical maps of the city, compiled by Bernard Dichter, with accompanying translated texts containing written accounts from travellers throughout the city's history. In addition to this, material in Acre itself, traditional building techniques and city plans of the various conquering nations have been utilized as comparative studies for assessment of phasing in the square's development.

The thesis is divided into three main sections. The history of the square and its inhabitants make up the first section which is subsequently divided by period of occupation. Within these subsections information is given as to the social, economic and architectural traditions

of each culture to occupy the square. The role of this section is to provide context for the changes which have been transposed on the structures and on the space of the square. The second part is a building by building survey of the square, which discusses the current conditions of the building, and the layers of historical material each structure contains (both architectural details and footprints). The third section is a series of recommendations for the restoration of the square based on the conditions survey I conducted and on the historical research which followed.

If I should continue this study, I would return to the site to corroborate my historical research with samples of the stone, plaster, and paint of the actual structures as well as to document floor plans and architectural details with measured drawings.

HISTORICAL DEVELOPMENT

The following chapter attempts to present an historical overview of the social, political and physical transformations which occurred in the city of Acre from the 7th century to the present day.

HISTORICAL INTRODUCTION

The architectural development of the city Acre is best understood within the context of its history. At Acre, three major issues come to the forefront when examining the comprehensive history of the city. The first deals with the frequent and often violent transfer of governmental rule over the city of Acre. While this helps establish clear chronological phases and cultural influences, it is the subsequent tides of political unrest, unity, and dissention within each political regime which establish the tenants of the period. Architecturally, this is seen in the frequent adoption and reuse of existing structures by each subsequent ruling government. Between the 7th century A.D. and the present, Acre has been in the hands of the Omayyad, the Crusaders, the Druse, the Turks, the Egyptians, the Turks again, the British, and the Jews. The city planning and architectural structures reflect how each of these cultures adapt the structures they inherit, and develop the city's plan to their political organization.

The following chapter breaks these issues down by historical period, and shows how the changes in the ruling regime provoked changes in the face of the city. Clear phases of architectural growth and change can be established to elucidate the intricate social, political and economic forces at work within the city bounds.

The Omayyad city reflects the decentralized government which ruled it. It was a religiously oriented city separated into independent wards which worked together for the "will of Allah". On the other hand, the Crusader occupation of Acre was characterized by dissention from both within and without the city, thus fortification was the inspiration behind the building. The different factions of the Crusaders utilized the ward system of the

Omayyads to set up their independent governments within the city walls but marked these divisions spatially by fortifying their "quarters" within the city.

The Turkish occupation reflects a government of unity. No longer concerned with internal or external strife, they used stone from the exterior walls to rebuild portions of the city. Internally, without different cultural factions, the stylistic details of the architecture conformed to a unified type.

Acre was ruled in absentia during the British occupation. Due to this fact deterioration and decay set in on the city. Once a great center of trade in the middle east, Acre, in these years, became overshadowed by the port city of Haifa, and the city suffered from neglect.

The Acre of the State of Israel is undergoing a transformation. The government is attempting to revitalize the city and its historical treasures. Among other policies, they have established a program in which the local population is trained in preservation techniques to restore the once glorious merchant city.

Although the city of Acre dates from the Canaanite-Phoenician era, the first city was not located on the peninsula where the modern city is found today. An archaeological tel, found and researched just outside today's city is believed to be the site of the original town.¹ The earliest traces of construction found at the site of the modern city can be attributed to the Omayyads, the first Arab dynasty who rose to power in the seventh century. Although we have little physical evidence of the first Arab city, we know its first

¹ Moshe Dothan, *Akko: Interim Excavation Report First Season, 1973-74*, Bulletin of the American School of Oriental Research, (December, 1976).

years of growth were restricted by the breakdown of earlier trade routes between east and west, producing what resembled a small provincial town rather than a grand city.

OMAYYAD OCCUPATION

In the seventh century, the Omayyad empire extended across the countries of Palestine, Syria, and Jordan, previously Byzantium. Essentially, the Muslims of the Omayyad dynasty took over the developed lands of those Christians who had left the Holy Land for the Byzantine Empire. The land itself was considered booty and was parcelled as rewards for "clients or allies."² The design of each parcel was widely differentiated, dependent on the taste of its ruler. The "Muslim leaders became landlords...imitating [the Byzantine...] programs of economic development such as swamp drainage, irrigation, and transfers of population."³ There are, "practically no Omayyad palaces which fail to show stones or foundations from an earlier origin and that the physical or ecological infrastructure which made the Muslim settlement possible existed before Islam had conquered the area."⁴ The economy of the Dynasty was centered around the growth of olive trees and the processing of the oil, requiring their appropriation of the irrigation systems outlaid by the Byzantines. Christian pilgrimage was also another source of income for the Muslims, involving the feeding and housing of thousands of pilgrims.

² Oleg Grabar, *Umayyad Palace and the Abbasid Revolution*, Studia Islamica XVIII (Paris: G.P. Maisonneuve-Larose, 1963), 12.

³ Richard Ettinghausen and Oleg Grabar, The Art and Architecture of Islam: 650-1250, (New York: Penguin Books, 1987), 45.

⁴ Grabar, Studia Islamica, 9.

THE OMAYYADS IN ACRE

Between the years 636 AD and 1104 AD the city of Acre was ruled by the Arabs of the Omayyads Dynasty. Amr Ibn el Din, founder of the dynasty, was the first in a succession of Caliphs who governed Acre over the next 450 years. It is believed by scholars that it is during this period that Acre developed its rhomboid shape.⁵ As there are few physical remains from this period my research has focused on comparative overlays of other contemporary city plans, to determine what, if anything, remains from the Omayyads city plan for the city of Acre. The underlying urban layout is common among early Muslim town plans. "Geographical and environmental conditions basically determined the course of streets and the boundaries of quarters."⁶ The Islamic concept of settlement emphasizes administration among a decentralized populations. This division of administration was incorporated in their very religious structure.

On the advent of Islam, the Tribal organization of the Arabs, was decentralized rule of the Sheikhs in the desert regions. The Prophet, as reformer, introduced the system of centralization of these decentralized principalities...This unity was based on religious brotherhood, that transcended geographical boundaries, racial and linguistic differences.⁷

What was carried on from these times then is the overall urban plan, the outline of the walls, the harbor, and the decentralization of economic and social life.(Map 1) When compared with other Omayyad towns some basic patterns are revealed. The historical core of the town of Khiwa in Khawarizm has been mapped in much the same way that Acre's

⁵ David Jacoby, Studies on the Crusader States and on the Venetian Expansion, (Northampton, England: Variorum, 1989), 39.

⁶ Jacoby, 45.

⁷ Sheikh Ahmed, The Muslim Concept of Town Planning, (Karachi: Pakistan Institute of the Arts and Design Book Production, 1976), 8.

has been mapped.(Map 2) It shows a walled city divided in half by a main street. Another main road cuts across almost the entire length of the walled city at a slight angle to the external boundary. Smaller streets wind throughout the rest of the town. These towns have been divided into sections or wards.

In the center stands a mosque, the spiritual and intellectual centre of the city that is its brain and heart. Nearby is the palace of the ruler, and so the centre is a place of decision as well. Then, near the mosque one finds candle and perfume makers who supply the mosque with some of the ceremonial needs. As the center of learning, the mosque is bordered by the university which includes an ample library. Merchants of leather, paper and cloth supply the materials for binding the books. The centre of the finery supplies goods for binding the books. Then there is a quarter for carpenter locksmith, and metal smith lie alongside. Taking a few more steps we are at the city gates, where we find saddle-makers and hostels for travellers.⁸

The street patterns of Acre may also be compared to the Omayyad city of Khiwa. The discreet quarters characteristic of the Crusader period may have developed from the original Omayyad wards, however, we have little concrete evidence of this. In Acre, like in Khiwa, the main street runs from east to west, bisecting the old city. Another street runs vertically through the town, bisecting it from north to south. Its main function was to connect the main gate in the north to the port in the south. During the Crusader period it divided the residential portion of the city in the west from the port, warehouses, and trade area in the east. Small winding paths and streets riddle the rest of the city. Thus, it is the way the streets of the old city bound the wards which is the point of commonality between these two city plans.

The original plan and the original structures have been adapted over the years by successive governments. For example, in 1774, Ahmed Jazzar Pasha built his house on the Crusader

⁸ Ahmed, 47.

ruins of the Domus Infirmorum which, in turn, was built upon an 11th century Khan.⁹ The habit of reusing old structures in Acre is recorded by all of its occupants. Churches in the city often were once mosques, and mosques were created from the churches which preceded them. It was the nature of the conquering nations to dispel the native population and leave the shells of the city for their own people to populate, using former religious centers as the new points of congregation.

OMAYYAD TYPOLOGICAL CONSTRUCTION

The typical houses of the Omayyad Dynasty had a central hall flanked on either side by two small interconnecting rooms. Structures tended to be built of brick and stone ashlar masonry, using pointed Syrian arches and Syrian moldings. The decorative influences are many; but they are predominantly: Roman, Byzantine, Syrian, and Sassanian. The walls of the Omayyad structures are elaborately carved with vine scrolls which recall both early Syrian and Justinian motifs. Birds at the vines are attributed to local pre-Islamic styles, whereas felines recall Byzantine motifs, and the griffin and palmettes recall Sassanian motifs. However, the Omayyad make their own iconography by "the slight twist given to familiar motifs, the unexpected juxtapositions."¹⁰ These are most powerfully expressed in the archaeological remains of the palace facade of Mshatta. (Plate 1) The small scale carving functioned almost as a tapestry in the way it covered the entire wall. Here, it can be seen that, "the stylistic tendencies of the Hellenistic Art were gradually replaced by Oriental principles of rhythmic repetition and symmetry."¹¹ This decorative style is the basis of

⁹ Jacoby, 44.

¹⁰ Robert Hillenbrand, *Islamic Arts at the Crossroads: East Versus West at Mshatta*, in *Islamic Art and Architecture: Essays in Islamic Art and Architecture* 1, (Malibu: Undena Publications, 1981), 72.

¹¹ M.S. Dimand, *Studies in Early Islamic Ornament*, *Ars Islamica* IV, (1937), 315.

Islamic Art. It became even more ornate with the introduction of stucco as a material. Easily molded and manipulated, stucco was a perfect medium for the personalized decoration of the Omayyad dynasty.

As mentioned above, each land owner had his own taste in stucco pattern. Disparate styles in the ornamentation within individual buildings suggests the use of levies: conscripted workmen from different areas with different building traditions brought together to build palaces and waterworks. Their differences are visible on the walls of palaces like Mshatta.^{1 2} Later, the change to stucco and mudbrick construction at the end of the dynasty served to conform styles. Because of its quick and easy technique, less skilled workers could produce the same facade using molds that skilled artisans labored over before.

CRUSADER OCCUPATION

The Crusaders conquered Acre in 1104, five years after they had taken Jerusalem during the first Crusade. It was taken by Baldwin I with Crusader armies, predominantly from England and France, who were transported to the Holy Land by fleets owned by the Italian city states. The Genoese, Venetians, and Pisans, intent on expanding their trading empires to the Holy Land, assisted Baldwin in the capture of the port city. In return, each city state received a *quarter* of the city for its efforts. Much as these cities were constantly at war in Italy, they were also struggling for power in the Holy Land. It follows, then, that as the constant struggle between Crusader and Muslim forces dictated the design of the external fortifications around Acre, so the constant struggles between the Italian powers dictated the

^{1 2} Hillenbrand, 74.

design and construction within the city's walls.¹³ These are the two most fundamental issues affecting the city plan for the Crusader city of Acre.

Most of the Crusaders did not settle in Acre after the first Crusade, and although subsequent Crusades brought in fresh populations, the constant turn-over limited the Crusader population to such an extent that, even if they had chosen to, they had not the manpower to feed themselves. The native populations tilled the lands and paid for the privilege with one third to one fourth of their crops in taxes to their new lords. The "whole of the non-Frankish population was classified as serfs or villains,"¹⁴ including not only the Muslim population but the oriental Christians and Jews as well. Moreover, any European in the Levant was automatically awarded the status of citizen. The segregated society was emphasized by sumptuary laws which were meant to keep the natives apart from the conquerors. After 200 years of occupation the Crusaders on the whole rarely spoke a word of Arabic, whereas the oriental Christians and Jews spoke Arabic as their native language.¹⁵

THE ROLE OF THE GENOESE IN THE HOLY LAND

The Genoese had less altruistic motives for participating in the Crusades than the Crusaders themselves. To them, "the Crusaders were merely men to be carried to the east 'certo naulo', maintained there by Genoese aid, in return for rewards and privileges of deep

¹³ Bernard Dichter, *The Orders and Churches of Crusader Acre*, (Acre:Israel Municipality of Acre, 1979).

¹⁴ Joshua Prawer, *The Roots of Medieval Colonialism, The Crusaders' Kingdom; European Colonialism in the Middle Ages*, (New York:Praeger, 1972), 27.

¹⁵ Prawer, 32.

import."¹⁶ As early as 1097, the Genoese were contracted by the Crusaders to carry the knights to the Holy Land. Within the first 13 years of the Crusades the Genoese sent six armed fleets to the Levant, and in return received rewards including the gifts of churches, warehouses, or dwellings as well as the awarding of portions and, in some cases, entire cities. They were awarded part of Antioch in 1098, the port of Gebel in 1103, and part of the city of Acre in 1104 when it fell to the Crusaders. These ventures gave them the foothold they needed for a mercantile monopoly. Between the years 1154 and 1164 six merchant ventures were established between Genoa to the Holy Land with a total investment of 10,000 lire in money and wares and they shipped out to France, Spain, the Balearics, Cueta, Bougie, Tunis, Sicily, Salerno, Naples, and Corsica. This trade was controlled during the Crusades by a small group of five Genoese families who used the Syrian and Jewish agents who controlled the trade in this area before the Crusades.

Though they controlled the trade in the Levant, the landed Gentry of Genoa did not settle in the east nor did most of them ever set foot in the Holy Land. Those Genoese who settled in the Levant were mostly "engaged in mastering the details of the trade, acquiring wealth through their associations with the landed capitalists, making frequent trips and slowly building up a middle class of the pure mercantile type...an agent of the Della Volta family, Ingo Nocenzio, is a good example. Nocenzio made at least 2 voyages to Syria, spent several years there...his trade capital increased tenfold."¹⁷ Those who settled in the Holy Land hoped to start new lives for themselves.

¹⁶ E.H. Byrne, *Genoese Trade with Syria in the Twelfth Century*, The American Historical Review XXV (October 1919-July 1920), 193.

¹⁷ Byrne, 208.

The success of Saladin nearly wiped out the Genoese colonies so the Genoese put their full force forward when Richard the Lionhearted came through during the third Crusade. Sixteen voyages were recorded between 1179-1205, and exports of gold and silver from Genoa were soon displaced by the sale of cloth. As for the imports, "Money was not plentiful; dowries, purchases, and even communal loans were still being drawn in terms of articles of trade, principally spices and dye materials from the Levant."¹⁸

GENERAL HISTORY OF THE GENOESE IN ACRE

In 1104 when Acre fell to the Crusaders, King Baldwin allotted the Genoese the oldest and largest of Italian communes in return for their active participation in the capture of Acre. Although he conceded to the Genoese one third of the port city which was soon to become the main port of entry in the Crusader state, he "was careful enough to prevent them from gaining a direct outlet to the western harbor, and retained in his own hands the quarter of the Chain in the latter's vicinity."¹⁹ The network of winding lanes and close set houses gives rise to the conjecture that the Genoese settled in houses of the old Arab town doing little to change character of the neighborhood.

In the first years of the occupation of the Crusaders in Acre, the Genoese did not settle in the city. They were a travelling merchant class. Their families and property were at home in Genoa. A typical year for these merchants found them embarking for the Holy Land in September, arriving around Christmas, and leaving once again at Easter. During their stay in Acre, they lived in communal lodgings above the shops and stores in their national

¹⁸ Byrne, 199.

¹⁹ Jacoby, 27.

quarter. The commune was the political, economic, and social focus for those travelling merchants. The commune provided a national church, bakery and baths.

As the Crusaders gained control in Palestine, the Patriarch of the Crusader Kingdom began to award political autonomy to the Italian communes in exchange for their aid during war. The Pactum Warmundi of the Venetians was the first of such contracts. Made in 1123, it in effect was "the creation of a state within the Kingdom."²⁰ However, with it came the responsibility of local administration. Permanent settlers were needed to collect taxes, dues and customs for the Communes. At the same time, trade became more regular and a fixed market began to be established. Merchants came with their families and made their homes in Acre. The quarters of the city became crowded in a short time. Expansion was not possible without conquest of space from neighboring quarters; for all quarters were bounded by other quarters already populated. The people of the city had to remain within its walls for safety from Arab raiders.

In 1187, Saladin retook the city, but three years later Acre was won back by the Crusaders under King Richard the Lion Hearted and Phillip of France with the aid of the Genoese fleet. At this time the royal court was transferred to Acre. In addition, a migration of displaced Christians who had fled the captured cities in the wake of Saladin's armies settled in Acre at this time. With Jerusalem under Muslim control, Acre became the capital of the Crusader state. St. Louis d'Acre built the New Quarter and fortified it with a series of walls and a deep moat. He repaired the double walls to the east and west of the city, strengthening the weak areas where Saladin had been able to pass through. Fortification

²⁰ Joshua Prawer, Crusader Institutions (New York: Oxford University Press, 1980), 222

was crucial for the Crusader Kingdom which was "doomed to be ruled by a numerical minority dominating an overwhelming hostile majority."²¹

Fortification took place within the city as well during the Crusader rule. The Genoese were not the only kingdom to receive a boon for their part in the implementation of the Crusades. The Venetians, Pisans, merchants from Amalfi and Marseilles, Knights of St. John (Hospitallers), Knights Templars, and the Teutons all were given their portions of the city "with little concord amongst them...for the reason that each had absolute control and independent authority in his own quarter,"²² and each sought to carve another niche in their own empires.

The Crusades, contrary to romantic myth, were not a time of Christian solidarity. War between the Venetians and the Genoese was imminent at all times. In 1250, a Genoese merchant killed his Venetian colleague and war broke out in the streets of Acre. Tensions were again at a height when, in 1256, the two city states fought over the ownership of the Monastery of St. Sabas, causing the destruction of the Tower of the Genoese and much of its quarter. In 1267, the Genoese brought a fleet to the port of Acre to reclaim their property and attacked the Venetians, who immediately retaliated, and with the help of the Pisan took back the port and captured the Genoese Quarter. By 1275, the Genoese had returned to Acre, although not all of their property had been returned.

²¹ Prawer, *Roots*, 27.

²² Domenico Laffi, *Viaggio in Levante al Santo Sepulcro di Cristo et Altri di Terra Sante, Bologna 1688*, in *The Maps of Acre: An Historical Cartography*, ed. Bernard Dichler (Acre: Municipality of Acre, 1973), 31.

EVIDENCE OF THE GENOESE IN ACRE

There are four major issues to be considered when examining the design of the Crusader layer of Genoa Square in the Genoese Quarter of Acre. First, Acre is a conquered town whose population was displaced leaving a number of empty structures. It is believed that the Genoese Quarter especially was grafted over the original Muslim city. Second, throughout the Holy Land the Crusaders set a precedent for adapting extant structures for their own uses, transforming mosques and minarets to churches with bell towers. This is seen archaeologically in Caesarea. Third, the Crusaders brought with them their own traditions and philosophies which affected those structures they did build. Finally, Acre was a city of vastly conflicting interests due to the juxtaposition of independently running quarters within one city. It is to this last issue, especially, that the development of Genoa Square can be attributed.

Our understanding of the layout of the Genoese Quarter of this period stems from an examination of the archaeological remains of the 12th and 13th centuries, select maps from the same time period, as well as first hand historical accounts of travellers in Acre during the Crusades and through the years following the Crusades.

EVIDENCE OF THE CRUSADERS IN ACRE

Several maps from the Crusader period have been found. However, although they are a rich source of general information, they lack the specific building information necessary for an historical reconstruction of the square. What they do express is the organization of quarters in the Old City of Acre, the layout of streets, and the major monuments of each

nation. Marino Sanudo's map, in particular shows each of the Rectangular, Genoa, and Templar Quarters.(Map 3) It should be noted that the grand tower of the Templar Quarter is shown here at the juncture of the three quarters, and that the church of the Genoese is also marked on his map.

Few archaeological remains of the Crusader period remain in Genoa Square. Although many of the foundations still exist and some of the ground floor plans have sustained their integrity, no entire structure can be found in evidence. More often than not future generations used the ruined Crusader structures as the foundations of their own structures, or filled them in and built above them. However, enough remains to establish much of the boundaries of the Quarter and the division of space within it as well as to establish a recognizable building typology within the space.(Map 4)

In his survey, Kesten tells us that the Genoese Quarter "should be regarded as an organic defensive unit, closed and self-contained."^{2,3} Uprisings between the Venetians, Pisans, and the Genoese especially dictated a need for full fortification, including thick walls, and defended gates. The Genoa Quarter itself was divided into two distinct districts created by a bisecting street. It was fortified by thick walls, gates, and towers. The southern district of the quarter was mostly residential. The northern district housed the majority of the public buildings. It is in this latter district that Genoa Square is located. Today's square actually encompasses the original Genoa Square of Crusader times, as well as one of the main squares of the Crusader city of Acre. The latter was bordered on the east and the

^{2,3} A.Kesten, *Acre: The Old City Surveys and Plans, 1962*, in *The Maps of Acre: An Historical Cartography*, ed. Bernard Dichter (Acre: Municipality of Acre, 1973), 76.

north by the Genoese Quarter, on the west by the Rectangular Quarter, and on the south by the Templar fortress.

The western half of the present day square was once a main center for the city, bordered by three fortified entrances belonging to the individual quarters. It is believed that the Rectangular Quarter was newly erected during the Crusader period because, previous to the Crusader construction of the Templar fortress, the space was indefensible from sea attack.

RECTANGULAR QUARTER. Of all the quarters in Acre the Rectangular Quarter has best maintained its Crusader form. Its shape is still very similar to that shape recorded by the earliest maps of Acre. Its layout still conforms to the Crusader layout where defense is the primary issue. The two main streets which surround the quarter are incrementally angled so as to provide defensive bastions in the event of battle. In addition to this, both entrances still show remnants of guard towers. The tower at the south entrance to the quarter fronted what today we know as Genoa Square. During the Crusades, this structure dominated the entrance of the Neutral street, so called because it ran autonomously across the center of the city. The tower was the defensive gate for the Rectangular Quarter, creating a bridged passageway over the street. A large hall joins this structure on the back. Its vaulted ceilings are still supported by its original Crusader pillars. The north wall is extremely thick and is thought, by Kesten, to be part of the northern fortified boundary of the Genoa Quarter. It is on an east to west line with two other buildings of similar construction. In his work on Crusader Castles, T.E. Lawrence tells us that, "the Crusaders brought with them to Syria their architects, who also acted as chief Masons."²⁴ Throughout Syria, Palestine, and the Holy Land remains of these castles and keeps still exist. In 1909,

²⁴ T.E. Lawrence, Crusader Castles (London: IMMEL Publishing, 1992), 64.

Lawrence himself recorded the plan, styles, and structural details typical of these Crusader fortresses. From his text, we can find comparative examples of Crusader structures and details, such as the dressing of stone, and the use of vaults and arches. He tells us that, "In Europe no keep was vaulted above the basement; in Syria there was no other way of making a roof."²⁵ Wood in the Holy Land was scarce. He describes the typical square keep as follows,

Each storey is stone-vaulted, on one huge pier, in the center nine feet square. The upper room is well lighted, by windows of reasonable size.²⁶

His drawn plans of Soane castle show this vaulting system as well as the typically thick walls of the Crusader fortress.(Plate 2) Even in times of relative peacefulness for the Crusaders, "existence always seemed connected with the necessity of reckoning with remote and overwhelming powers."²⁷ Castles, homes, streets, and even town plans were all constructed with defense in mind. Thick walls and defended entrances are found in most structures built by the Crusaders (Chastel Blanc, Chastel Rouge, Botron, and Giblet).

The houses of the Rectangular Quarter are also built on a standard plan still in evidence in many of the houses today.

Small units, built in a row, the facade usually formed by a single room, and the partition walls shared by the houses they separate. The standard plan consists of one room, entered from the street, with a small central courtyard behind and a second room beyond. At one time the houses had only one storey and did not rise above the level of the [defensive] wall.²⁸

²⁵ Lawrence, 63.

²⁶ Lawrence, 63.

²⁷ Aharon Ben-Ami, Social Change in a Hostile Environment: The Crusaders' Kingdom in Jerusalem, (Princeton: Princeton University Press, 199), 20.

²⁸ Kesten, Dichter, 79.

In his 1683 account Domenico Laffi informs us that the houses were still for the most part, "low,[and] one-storey high."²⁹ More elaborate houses are also in evidence in which, "rooms are arranged around an inner courtyard which is partly roofed."³⁰ They are very small, but in their general plan they resemble mansions found in other quarters.

TEMPLAR QUARTER. The southwestern corner of today's Genoa Square was the outermost border of the Templar Quarter during Crusader times, at which time it was marked by the Great Templar Guard Tower guarding the sea entrance to the city on the west side. The foundations of a Crusader mansion which stood to the east of this tower are still apparent on the facade of the modern structure which has been built atop it. Its ground floor plan shows a mansion with a large inner courtyard, partly roofed, around which many rooms of all sizes are arranged. Its plan and its thick western wall recall the original Crusader structure.³¹ The mansion is now topped by a later construction, which in plan follows the typical Ottoman house where the ground floor is used for services and the above floors have a grand central hall flanked by two rooms on either side (see below: Turkish Constructions in Acre).

The fortified entrances of the Rectangular, Templar and Genoese Quarters formed the exterior walls of an important city square during the Crusader period. Because it was of city domain it was a point of aggression between the different cultures which occupied the bordering quarters. Both the Genoese and the Templars encouraged development in this open area in an attempt to gain military advantage over each other. A line of proprietary

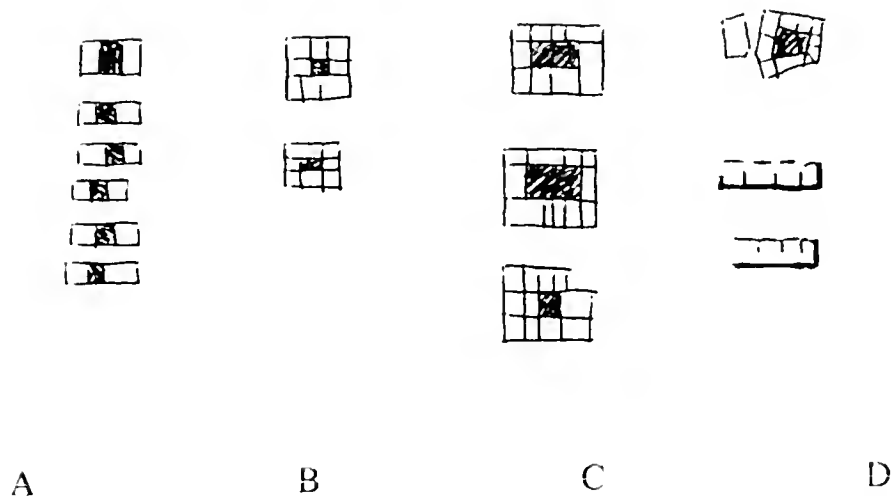
²⁹ Laffi, Dichter, 32.

³⁰ Kesten, Dichter, 79.

³¹ Kesten, Dichter, 89.

CRUSADER TYPOLOGIES IN ACRE

Taken from Kesten survey of remains



A-Small apartments; shaded sections marking courtyards. Found mostly in the Rectangular Quarter; originally one story.

B-Small Houses. Rooms arranged a central courtyard which is partially roofed. Found mostly in the Rectangular Quarter; originally one story.

C-Mansion. Rooms arranged around a central courtyard partially roofed. Found in Genoa Quarter and Templar Quarter (and elsewhere throughout the city).

D- Fortified structures with especially thick walls or defended passages.

shops grew on the exterior of each quarter's fortified walls encroaching into the space of this main city square. A smaller square was formed to the south of this main city square as well, by an interlocking series of shops which extended along the walls of both the Genoese Quarter and the Templar Quarter.

GENOA QUARTER. The Genoa Quarter is not one of the defended keeps described by Lawrence. However, its boundaries within the city would have been treated as fortifications. The Genoese erected these structures to protect themselves within Acre from the other merchant colonies who sought a monopoly on the trade of the East. Thus the boundary walls of this, and all the quarters, have especially thick walls, and the main gates to the quarters have guarded defensive mechanisms. The Neutral street of the Omayyad period (the east to west street which divided the city's quarters at this time) divided this Crusader quarter in half. The Genoese regarded this street as a point of weakness in their defenses, and built gates on either side of the Neutral street as protective portals to the northern and southern portions of the quarter.

Carts and pedestrians entered the northern portion of the quarter by a defended passage in the south east corner of the Genoa Square. Two massively built guard rooms, which still exist today, flanked the route. The plan and first floor show the typical format of a Crusader defensive gate: the passage through this structure is built in the form of a cone which narrows as the square is approached. A bend in the passage typifies an approach to a fortified gate. They were designed in this manner to obstruct the enemies' visual advantage. Another fortified gate originally stood to the west of the church, but was destroyed in the middle of the 19th century. This gate divided the present day square into the two separate squares described above.

CHURCH. The original Genoa Square was organized around the central church of San Lorenzo. Since Crusader times it has been the one constant feature in the square. Even during Crusader times when other structures were destroyed in local skirmishes the church was maintained. Jacoby tells us that, "The Church of San Lorenzo was the only building standing around the public square of the northern district after the Venetians and Pisans overran it in 1258. Many houses in the quarter were not rebuilt nor resettled, save for a few, and the severe damage they suffered was still visible in 1291 at the time of the Muslim conquest."^{3 2} After the destruction of Acre by the Mamluks, the church was rebuilt on its original foundations by the Druse Emir Fakhr ed-Din, who restored it to encourage Christian settlers. It was last restored in 1845. Currently the church is occupied by a Greek Orthodox congregation.

SHOPS. Fronting onto the square, a series of small shops lie along the south wall. Traces are still seen of these shops in the ground floor plans. However, this face of the square has been obscured by a gradual buildup of structures which have encroached on the open space between the shops and the church over the years.

MANSIONS/PUBLIC BUILDINGS. On the north side of the square, across from the church, is evidence of a mansion of the Crusader period. Remains of the walls and ceilings of that period are still intact and suggest a typical Crusader plan in which large, often vaulted rooms surround a rectangular courtyard and onto which all the doors and windows open. Traces of stairs may be detected which led from the courtyard to the roof. (The upper floors, however, have been altered in later periods). The walls which remain are

^{3 2} Jacoby, 29.

extremely thick, like those found in the defended gates of the quarters. Their thickness indicates the vulnerable location of the mansion along the border between quarters. Historical accounts pinpoint this location as the original site of the Old Palace of the Genoese Quarter, in which the arcaded "ground floor was used as the Curia [this is a senate chamber] of the Commune."³³

Across from the church, to the east, the remains of another Crusader mansion and its adjoining hall can be found. The hall is still complete and is one of the best preserved Crusader structures in Acre. Here the vaulted ceiling has been preserved as well as the thick outer wall, which has incremental niches once serving as defensive posts. The facade of this structure is obscured by later additions, and thus it can not be seen from the square today. Historical accounts pinpoint the mansion as a monastery during the Crusades. The plan of the foundation and the ground floor indicate this structure to be a large, well-proportioned building with a center atrium around which rooms were grouped.

An inventory of the Genoese Quarter was taken in 1249 by Guilliemo di Bulgaro and Simone Malocello. It shows the houses managed by the Genoese and those paying cens (tribute) to the commune. In total 64 houses were recorded; 51 by cens and 14 by direct administration of the Commune.³⁴

³³ Praver, Crusader, 237.

³⁴ Praver, Crusader, 240.

TREATMENT OF MASONRY IN CRUSADER ACRE

Although no one has studied the Crusader stone work in Genoa Square, the walls around the city of Acre have been examined more closely. In his 1946 guide to Acre, N. Makhoully noted that Ibrahim Pasha often refaced walls of Acre. He described the reused stones as having "the deep draft and rustic boss characteristic of Crusader work and are doubtless the stones which he stripped from the Crusader castle at Atlit".³⁵(Plate 3) Later, when talking about the Khan esh-shwarda, he again notes the early treatment of Crusader stone work, as follows:

At the southern corner stands a medieval tower called Burj es-Sultan. The masonry of its western face is composed of the boss and margin stones characteristic of the Crusader building. Many of the stones bear mason-marks in the form of crosses, triangles, or letters.³⁶ (Plate 4)

In his 1948 survey, Percy Winter also comments on the treatment of stone from various construction periods. He focuses his research on the fortified walls of Acre. The north and east fronts alone preserve the work of the Crusaders, Jazzar, Suleiman, and Abdullah Pasha. He notes that:

Almost throughout it is of quite small masonry, which is comparable to Daher El'Omar's work except that it includes a number of reused Crusader Stones, conspicuous by their bosses, which appear at the angles of the bastions but also here and there throughout the face or escarpment of the rampart. The masonry of the east front, on the other hand, must be predominantly later than 1831, being largely Ibrahim Pasha's at bastions I and IV, and Turkish work of 1841 onwards between bastions II and III. On the whole it has a more finished appearance.³⁷

³⁵ N. Makhoully and Johns, C.N., *Guide to Acre, Jerusalem 1946*, in *The Maps of Acre: An Historical Cartography*, ed. Bernard Dichter (Acre: Municipality of Acre, 1973), 110.

³⁶ Makhoully, Dichter, 178.

³⁷ Winter Percy, *Preservation and Reconstruction of Acre: Survey and Report, 1943*, in *The Maps of Acre: An Historical Cartography*, ed. Bernard Dichter (Acre: Municipality of Acre, 1973) 183.

The photographs in Lawrence's text show examples of the dressings of the stones on the Crusader stone keeps.³⁸ Both the keeps at Soane and Banias show stones treated with the boss and margin technique of the Crusader's. (Plate 5) We also find examples of stylistic use of blind arches to decorate the facades of structures as in the Keep at Craq Des Chevaliers.³⁹ (Plate 6) In today's Genoa Square these blind arches are still visible on several of the structures. (Plate 7)

Lawrence also describes a system of corbelled buttressing that was used in Crusader fortification. He notes its use again in Banias and at the Craq des Chevaliers, and it is found typically through the fortified remains of the Crusaders in the present Genoa Square. (Plates 8-11)⁴⁰ Coupled often with the blind decorative arches described above, these stylistic details are one of the few exterior reminders the square has to its illustrious Crusader material culture.

What we see today is often only a portion of the Crusader structure, its arches cut off at the proverbial knees by the later Turkish practice of filling in the Crusader remains and raising the level of the street. (Plate 12) What does remain of the Crusader period today are the footprints, foundations, and architectural details still extant on the first floors of the two to three story structures which now create the space of the square.

³⁸ Lawrence, 89.

³⁹ Lawrence, 100.

⁴⁰ Lawrence, 99.

THE ABANDONED YEARS

In 1291 the city was captured by Malik el Ashral, the commander of the Mamlukes who sacked, burned and abandoned it. Only a scattering of villagers populated Acre from then until the 16th century. The Mamluks had no primary source for marble, and appropriated it from Crusader and Byzantine buildings, especially columns, further adding to the decay of the city. Richard Pococke, the bishop of Meath, in his writings of 1743 does attribute some construction to the Mamluks.

To the east of the quarter of the Knights, are remains of a beautiful modern fortification, which was carried on to the south....built by the Saracens, to defend themselves against the invasion of the Turks; there is a double rampart and fosse, lined with stone; the inner rampart was defended with semicircular bastions.⁴¹

In my studies I have not come across any other structures that have been attributed to this time period. All descriptions suggest that the ruins were occupied, but that little if any building was conducted by the Mamluks. However, as their construction was prolific in other cities, it is possible that the lack of archaeological evidence of architectural structures from this period may be due to invading cultures and the subsequent destruction or adaptation of structures from this period.

MAMLUK CONSTRUCTION

The Mamluk style of construction, while not documented in Acre, is found in Jerusalem. From this evidence it has been found that the Mamluks typically incorporated existing

⁴¹ Richard Pococke, *Description of the East and Some other Countries*, London 1743, in *The Maps of Acre: An Historical Cartography*, ed. Bernard Dichter (Acre: Municipality of Acre, 1973). 36.

structures into their own buildings, often building atop the foundations of older times. The Suq al-Qattanin in Jerusalem is just such an example. The "foundations [here] follow the customary centralized plan of medieval times, with various chambers disposed around an inner courtyard."⁴² These buildings were usually built of stone with rubble and mortar foundations. The walls were made with a rubble core faced with dressed stone and plastered in the interiors. The mortar in this area is predominantly lime based, although white gypsum mortar is also found. Both barrel and groin stone vaults are in evidence in the Mamluk structures of Jerusalem. Typically, the former was used over rectangular spaces and the latter over square faces. The vaults were constructed without drawing or scaffolding,

a mould for the vault [was] modelled in earth upon a heap of brushwood piled upon rough props from the floor...upon this a simply made centre rough stones and mortar are place to the thickness of about 1 foot. The stones being well hammered in by the workmen, who clamber about on the roof itself, without any scaffolding...[with] stones weighing 2 cut, being carried by a single laborer. The scene of a house in construction is most interesting, men and boys walking in procession along the wall with baskets of mortar on their heads or heaps of stones piled upon a pad slung over their backs.⁴³(Plate 13)

The details of Mamluk constructions are more identifiable. Mouldings, while used in the same traditional way of the Crusaders and Ayubids (to define cornices and to offset the structure), had their own profiles.(Plate 14) Windows reflect the building use. Light came from interior windows set on the inner courtyard. The Mamluk house was designed for privacy. Most of the usual household activities were focused in the central courtyard space. Windows on the outside face of the structures are usually small and placed high on

⁴² Michael Hamilton Burgoyne, *Methods and Materials of Construction and Decoration, in Mamluk Jerusalem: An Architectural Study*, (Published on behalf of the British School of Archaeology in Jerusalem by the World of Islam Festival Trust, 1987), 88.

⁴³ Burgoyne, 91.

the wall. Those that were lower were rectangular and filled with iron grilles with bronze trims where they meet the stonework. The horizontal bars of these grilles have bulbous sockets through which the vertical bars pass. Windows would be fitted with wooden shutters bound by metal bands. The smaller windows were not grilled and were usually grouped around the larger central windows.(Plate 15) The doors, like the shutters, were also made of wood and bound with metal either with brass or iron bands. Arches were typically pointed or horseshoe, and the plaster was often detailed with painted stripes which came into fashion during the end of the Abassid period. Internal walls if not built with ashlar masonry, were either rendered with gypsum plaster or panelled with marble.

General construction at this time was under the auspices of the caliphate. Travelling workshops of architectural overseers and craftsman were aided by local builders in major endeavors resulting in different levels of skill and sophistication in the construction of any large structure. Although not usually mentioned in literature, signatures of the artisans have been found inscribed inconspicuously on the buildings. Inscriptions are also added, usually marking the founder and date of construction, as well as citing a prayer of the Koran.

By 1517 the Turks took the abandoned city for their own, "the policy of the Sultan Selim and his son, Suleiman the Magnificent was to restore the Levantine coastal towns and villages in order to encourage trade and to increase security."⁴⁴ Settled by natives and a small colony of French merchants, the people resided in the makeshift Crusader ruins. During this time, however, some construction was occurring. The French were welcomed into Acre and built the Khan el Franq.

⁴⁴ Percy, Dichter, 183.

DRUSE CONSTRUCTION

The city underwent its first reconstruction in 1595 when the Druse leader, Fahr ed-Din came to power. The first ruler since the Crusades to improve the state of the city, he added a customs house, a palace, a mosque, and began the reconstruction of the Hospitallers fortress. It was also during this time, according to 17th century travellers, that "Emir Fahr ed-Din restored the Church of St. Nicholas for the use of Europeans...with a choir and three naves of reasonable size. It is divided for the use of the Maronites and the Greeks, each one pressing a part."⁴⁵ He restored this structure for the Christians he encouraged to settle in Acre. The Greek Orthodox Church of St. George in Genoa Square today corresponds in plan with the 17th century traveller's account of the Church of St. Nicholas, and it is believed to be on the same site of the Crusader Church of St. Lawrence. "It can hardly have escaped damage in the bombardments of 1831 and 1840 and must have been renewed in part, however, it contains portions of a carved and painted wooden sanctuary screen of Cypriote style of the 17th and 18th century, which was dismantled to make way for the present stone screen."⁴⁶

The stylistic elements of this structure have almost no similarity to that of the rest of the square. Although the only religious structure, this does not account for the radical difference of its stylistic elements. There is a Byzantine angularity to the woodwork in the doors found only in two other doors in the square; that of the Bahai, and in one of the doors on the south facade of the square.(Plates 16-17, 32) Elaborate carving details the facades of this church, where the rest of the structures are relatively plain faced. The

⁴⁵ Laffi, Dichter, 32.

⁴⁶ Makhoul, Dichter, 174.

entrances are framed by projecting facades.(Plate 18) Elaborate carvings, both Christian and mythological, are situated above the doors usually within a carved arch.(Plate 19) A cornice with a triglyph, metope relief is above that. The windows are all small and above the first floor of the structure. Small grills cover most of them.(Plate 18) The stone work is predominantly regular, however, certain areas have been filled in with rubble stone and may mark the battle wounds the church incurred in the face of Napoleon's cannons.(Plate 20) The church still shows evidence of its original ceramic gutters.(Plate 21)

Over the next years the city began to lose its structures due to neglect and disorganization. No strong leader took control of the city until 1750, and in the absence of a central administration, squatters settled in the deteriorating buildings. The Chevalier d'Arvieux visited Acre in 1658 and:

informs us that at the time, a considerable part of the walls was still standing, but that neither terraces nor ceilings subsisted...under these apartments, there are still vast cellars, which serve as shelter for the flocks of Turks and the Arabs.⁴⁷

Domenico Laffi, another traveller through Acre in 1683, found the private dwellings to be in a different state writing that, "the number of houses inhabited in this city does not surpass 200. Most of them are low, one storey high, badly built amongst the ruins and uncomfortable."⁴⁸ As for the port, he describes its condition as thus:

The port is open to winds and sharp rocks cut anchor lines so it is not used...In ancient times there was...a large wall...built to provide a shelter

⁴⁷ M.E.G. Rey, *Etude sur la Topographie de la ville d'Acre au XIII-eme Siecle*, 1878, in *The Maps of Acre: An Historical Cartography*, ed. Bernard Dichler (Acre: Municipality of Acre, 1973), 58.

⁴⁸ Laffi, Dichler, 32.

from the waves and to render the port safer and better, it is at present entirely abandoned in ruins.⁴⁹

In 1738, 60 years later, Richard Pococke visited Acre. At this time it had fallen into the province of the tribe Asser. Pococke notes that the port had been filled up, and that the present town appeared to be on the spot of the old city. Of the ruins he relates, "there is nothing of antiquity in the old city, except the remains of the very magnificent and lofty Cathedral church of St. Andrew."⁵⁰ Furthermore, at this time the town had no longer possessed its famous walls, "for the Arabs will not permit them [the citizens] to build any, as they would by that means, lose the power they have now over the city and might be shut out of it."⁵¹

TURKISH OCCUPATION

It was not until the mid 18th century, under the auspice of Dahr el-Omar that the city fully revived. As the defacto ruler of N. Palestine, Dahr el-Omar chose to refortify the town as the capital of his territory. He ruled from 1749 to 1774, making Acre the center of his reign of power. Near the outer edge of the dying Ottoman Empire he was in actuality a semi-independent Pashalik. Carsten Niebuhr who travelled in Acre in 1837 described his reign as thus,

The Sheikh, Dahr el-Omar, whose fame reached Europe, undertook to restore the region over which he was the ruler and surrounded the city again with a wall and a moat. He also built a palace for himself in order to strengthen his regime. Towards both Jews and Christians he showed himself tolerant and encouraged both these and his fellow Muslims to settle in the town. In this way Acre became once more a center of commerce,

⁴⁹ Laffi, Dichter, 32.

⁵⁰ Pococke, Dichter, 37.

⁵¹ Pococke, Dichter, 35.

proof of which were the twelve offices which were set up in the town by the French for business purposes.⁵²

RESTORATIONS OF AHMED JAZZAR PASHA

In 1774, the city of Acre came under the rule of the Turkish adventurer, Ahmed Jazzar Pasha, who continued the revitalization of the city. He completed the reconstruction of the fortress in the Hospitallers Quarter (and used it for his governate), built a house on the ruins of the Domus Infirmorum which was in turn built upon an 11th century Khan,⁵³ a Mosque on the ruins of the Crusader Cathedral of St. Johns, built baths, two khans, and refortified the city, building walls to the east and north and a dry moat. He also laid the first aqueduct of the city. He built a market place as well which has since been destroyed by fire.

In a mass campaign of restoration, Ahmed Jazzar filled in the ruined Crusader structures with sand and rubble and layered his new city atop it. The street level of today's city is, in places, as much as 7-8 meters higher than the original Crusader streets.(Map 5) Evidence of this can be seen in the structures as well. At the juncture between the old Genoa Square, and the Templar Quarter, still sits the remains of the Crusader tower. What is visible today is the turret which stands only two storeys high where it would normally have risen high over the other structures.(Plate 22) Design elements of structures can be seen to be cut off by the street, indicating that the existing street was built after the structure.(Plate 23) This

⁵² Carsten Niebuhr, *Reisen durch Syrien und Palestina, Hamburg 1837*, in *The Maps of Acre: An Historical Cartography*, ed. Bernard Dichter (Acre: Municipality of Acre, 1973), 38.

⁵³ Jacoby, 44.

policy of filling in the old ruins of the city allowed Al Jazzar to recreate a new city of uniform architectural style.

TURKISH TYPOLOGICAL CONSTRUCTIONS

Ottoman buildings are typically constructed upon the foundations and ground floors of earlier structures. "Installing Turkish populations on newly conquered territories was part of Ottoman urban policy."⁵⁴ For this reason their houses were designed to be easily adapted to the existing street patterns of the conquered cities. Constructions were either superimposed on the existing structures or added to the planned city.

The adaptability of these structures revolves around their geometric division of space. Many of the ceilings take the form of arches and vaults on the lower floors, but the upper floors have flat ceilings. There is little ornamentation in the buildings. Walls are plastered on the inside, and doors and windows are small. What ornamentation there is comes from the woodwork of the ceilings and windows which is traditionally carved and painted in the wealthier residences. Steps to the upper floors are often located outside in the courtyards. The typical floor plan is that of a large central hall with large rooms flanking it. These rooms often open into a courtyard which is isolated from the street.

The exteriors of the structures display certain signature design elements. In Genoa Square and elsewhere in Acre we see the use of a triple horse-shoe window on the second floor of the larger mansions. These windows appear on the facades of two of the mansions in

⁵⁴ Ahmet Gulgonen, *A Typo-Morphological Approach to Design Thinking, Theories and Principles of Design in the Architecture of Islamic Societies*, (Cambridge, Mass: Aga Khan Program for Islamic Architecture, 1988), 119.

Genoa Square which face each other.(Plates 24, 25) Other examples can be found throughout the city and are typical of the stylistic unity which accompanied the reconstruction of this period.(Plates 26-28) Generally these windows have pillars separating the arches, and are extended into the square by attached balconies upheld by masonry brackets.(Plates 29, 30) Circular windows, too, are typical of the period. They are seen on almost half the buildings in Genoa Square and throughout the Old City of Acre. (Plates 31, 32)

The division of space during the Ottoman empire was dictated by cultural needs and individual use: commercial buildings were centralized and faced outward, while private residential space operated under several "degrees of interiority."⁵⁵

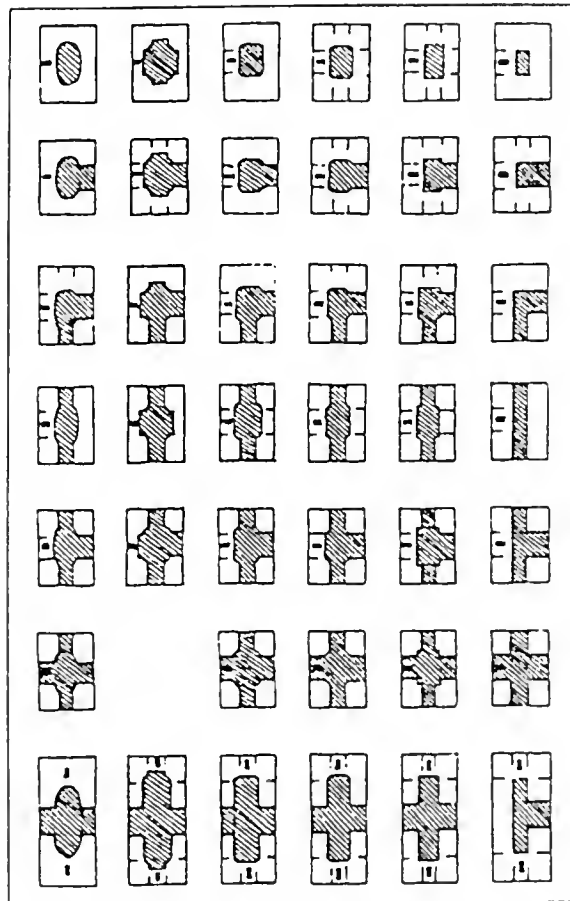
The exclusion of women from public life, their existence within the walls of a single house; the various domestic chores performed by women and the size of the extended paternal family necessitated the organization of the house around open interior spaces, carefully enclosed and kept hidden from the outside world.⁵⁶

The first floor of the traditional Ottoman house was used as a service floor for the family or sometimes housed a shop. In the first case the exterior wall is marked by an absence of large windows. If windows were present they were small windows placed high on the walls. The second floor was the main floor, reached traditionally by an open stairway. The major element of the main floor is a large open gallery overlooking the courtyard or

⁵⁵ Gulgonen, 123.

⁵⁶ Dogan Kuban, *Architecture of the Ottoman Period, The Art and Architecture of Turkey*, (New York: Rizzoli, 1980), 168.

Figure 2:
 Turkish house plans using a
 central hall. (From S. H. Eldem,
Türk Evi; Osmanlı Dönemi S.
 H. Eldem.)



garden of the house. More urbanized houses had a courtyard behind the house rather than within the structure. These second floor rooms generally overlooked the street, but were concealed by lattice work screens so women could observe the street life without being seen.(Plate 24) The rooms of the house were usually multi-purpose, and could be converted into sleeping quarters with "built in divans, fireplaces, and small wall niches...the fireplaces, the cupboards and the ceilings were decorated with carving."⁵⁷ Examples of such ceilings exist today in Genoa Square. Wooden plank ceilings on the second floor of two buildings in the square have been found with the decorative painting intact. The designs are floral and have an applied carved cornice attached.(Plates 33, 34) Portions of ornately carved wooden screens have also been found for the second floor horseshoe arched windows seen on two of the squares structures as well.(Plate 35)

Commercial shops were centralized in the bazaars or in squares. They were generally one story wooden structures or, at times, found on the ground floor of the residential buildings.

ROLE AND PRACTISE OF TURKISH ARCHITECT

The building process during the Ottoman rule was more supervised than in previous periods of occupation. They had a clearly defined hierarchy within the building profession. The architect performed all aspects of the building process (design, planning, and construction), but one could also be trained as a master builder who dealt only with construction, or an engineer who dealt with design. All made use of perspective, plan, and elevation drawings, and buildings were erected based on these plans. Plans represented not only the plan of the house, but the amount of material and the cost of that material as

⁵⁷ Kuban, 168.

well. They were typically drawn "on squared paper with blind horizontal and vertical lines forming a checkered grid network of small squares measuring 1 cm on a side."⁵⁸(Plate 36) Dimensions were calculated from these squares. As each square stood for a standardized building unit (brick), the numbers of bricks could be quickly computed and priced. The practice of tracing these grid systems directly onto the ground with stakes and ropes has been recorded.⁵⁹ These plans played an important role, in that they gave provincial builders access to easily interpreted architectural plans which they could follow for the most part without supervision. Despite such standardization, regional and personal interpretation abounded, especially on the elevations. Here, the focus of local styles associated with individual workshop traditions flourished.

Jazzar's work was augmented by his successors, Suleiman Pasha (1805-1819) and Abdullah Pasha (1819-1832). "It is on record that Suleiman, chiefly famous as the builder of the present aqueduct, added three small forts to the land fronts in 1806-07."⁶⁰ Abdullah further fortified the town, augmenting the tower of the citadel.

By the end of the Turkish period, the face of the city had changed. The street levels had been raised. The buildings rose over the fortified walls of the city. The Crusader structures had been adapted to Turkish needs. The second and third floors of the buildings were designed specifically to Turkish culture, and the facades of the buildings were unified stylistically using Turkish design elements such as horseshoe arched windows, circular windows, window screens, woodwork, and balconies.

⁵⁸ Gulru Necipoglu-Kafadar, *Plans and Models in 15th and 16th Century Ottoman Architecture Practices*, *Journal of the Society of Architectural Historians* XLV, 3 (Sept 1986), 225.

⁵⁹ Necipoglu-Kafadar, 231.

⁶⁰ Percy, Dichter, 183.

THE PROVINCIAL ACRE

Ibrahim Bey, son of the governor of Egypt, conquered the city in 1831-2, and was driven out eight years later (1840) by a fleet of English, Austrian, and Turkish armies. This ended the rule of the Egyptian Pasha and returned the rule to the Turks. According to Hogg, after the attack of Ibrahim Pasha on Acre, "Not a single habitation has escaped uninjured."⁶¹ A technical expert from the Polish army was brought in to supervise rebuilding, however, the general work force was local. Despite these repairs, during the reinstated rule Acre lost the proud air it had had. Through decadence and depopulation it soon became overshadowed by the new port city of Haifa.

In 1831, Rustum tells us that the houses of Acre were all built of stone, where the lower stories served as stores and stables, and the upper stories housed the families (He goes on to describe how the flat roofs of the houses served as a place of recreation for the family.) The stone for the reconstruction and refortification of the city is thought to be quarried in Atlit. In 1840, Sir H. De La Beche of the Royal Engineers of Great Britain analyzed samples of the building stone in Acre and his results were recorded in the sixth volume of the papers of the society. "The stone is, in fact, little else than an agglomeration of small fragments of shells, apparently both univalves and bivalves...The specific gravity of its solid parts as ascertained in our laboratory, is 2.63."⁶² The lime for the construction came from Nazereth. The uniform nature of this reconstruction can aid in the dating of the

⁶¹ Asad J. Rustum, *Notes on Akka and its Defences under Ibrahim Pasha, Beirut 1926*, in *The Maps of Acre: An Historical Cartography*, ed. Bernard Dichter (Acre: Municipality of Acre, 1973), 134.

⁶² Rustum, Dichter, 136.

construction from this period. De La Beche's samples can be used as comparative samples for identification comparison.

In 1868 Baha'u'llah, father of the Bahai religion, was brought to the City of Acre as a prisoner for his religious activities. He describes Acre at this time as having:

Sunk, under the Turks, to the level of a penal colony to which murderers, highway robbers, and political agitators were consigned from all parts of the Turkish Empire. It was girt about by a double system of ramparts; was inhabited by a people who Baha'u'llah stigmatized as the 'generation of vipers'; was devoid of any source of water within its gates; was flea infested, damp and honey-combed with gloomy filthy and torturous lanes. According to what they say...it is the most desolate of the cities of the world, the most unsightly of them in appearance, the most detestable in climate, and the foulest in water. It is as though it were the metropolis of the owl. So putrid was its air that, according to proverb, a bird when flying over it would drop dead.⁶³

By 1870, due to overcrowding in the prison, the Baha'u'llah was released to house arrest in the city of Acre. Here he resided in Genoa Square until 1896 when he moved to a larger complex in the city.

THE BAHAI IN GENOA SQUARE

When released to house arrest the Holy Bahai family moved into a small town house in the Christian community in Genoa Square around the Church of St. George. The house had previously been owned by a wealthy Christian Merchant, Udi Khammar, who had just moved to a restored mansion two kilometer northeast of the city. This house was the smaller eastern part of a double house which faced Genoa Square, then Abbud

⁶³ David Ruhe, *Door of Hope: A Century of the Bahai Faith in the Holy Land*, (Oxford: G. Ronald, 1983), 24.

Square.(Plate 32) The larger half of the house stood to the west, facing the sea, and belonged to Ilyas (Elias) Abbud.(Plate 37) These two houses were divided by, "a common wall...with the ground floor of both houses used as business premises. The holy family moved into the small house,...so insufficient to their needs that in one of its rooms no less than 13 persons of both sexes had to accommodate themselves."⁶⁴

The Bahai were not immediately accepted into the Christian community. As political agitators they were viewed with suspicion and distrust. The slightest incident,

fired [the Christians] with uncontrollable animosity for all those who bore the name of the faith which those exiles professed...Abbud who lived next door to Baha'u'llah, reinforced the partition that separated his house from the dwelling of his now much feared and suspected neighbor. Even the children of the imprisoned exiles, whenever they ventured to show themselves in the streets during these days, would be pursued vilified and pelted with stones.⁶⁵

However, things settled down and in 1872, when the son of Baha'u'llah was to be married, Abbud "offered to provide a room from his own house for the master, furnished one which adjoined the little house on the top floor, opened a doorway into it through the dividing wall, and then presented the room to Baha'u'llah for the master's use."⁶⁶ A greater freedom of movement was allowed to Baha'u'llah over the years allowing him to pass the word of his faith.

When Abbud decided to leave the city, he finally relieved the cramped space of the holy family, by renting them his half of the house. At this time, "a door way was broken

⁶⁴ Ruhe, 189.

⁶⁵ Ruhe, 43.

⁶⁶ Ruhe, 45.

through the common wall, on the topmost floor, fusing the two upper courts, and on the ground floor a doorway was also cut for access between houses."⁶⁷ Baha'u'llah, at this time, also began to rent a room across Genoa Square in the house of Tannus Farrah. His house fronts Genoa Square diagonally opposite to the House of Baha'u'llah. Even after his death, the House of Baha'u'llah was a place of pilgrimage for the followers of Bahai. A photograph shows the existence of fountain time as well which lay next to the house of Udi Khammar.⁶⁸(Plate 38)

Although no maps of Acre from the Bahai perspective were available for this study, a series of maps dating to the mid 19th century show that a monumental change in the geography of the square occurred in this time. Pre-dating the Bahai period, both Lieutenant Col. Alderson's plan of Acre drawn in the 1830's (Map 6), and J. Kelly's map drawn for the Quarter Master General's Department in 1850 (Map 7) show two distinct squares at the study site. However, F.G. Lowick's plan of the city drawn between 1923-1925, shows a new layout for Genoa Square in which the two distinct squares have been combined.(Map 8)

The maps indicate that at this time a change had been made in the buildings to the west of the Church of St. George. What was once two buildings, facing so close to each other that only a small passage separated them, now was open, and two new structures replaced the originals. The consequence of this change is that the space to the west lost its rectangular shape and that, to the east, a square has been created in front of the church. The structure removed was, at least at its foundations, the original Genoa Gate of the Crusader period.

⁶⁷ Ruhe, 46.

⁶⁸ Ruhe, 39.

The disposition of the foundation walls generated the narrow passage between the two halves of the original structure. Its removal marked an age that no longer looked to fortification as a necessary criteria for building. New weapons and a new government made such structures and divisions of space obsolete in the Old City of Acre. Although we have not yet pinpointed the exact year of destruction or construction of these structures, we can reduce the span in question, by taking note of a comment mentioned in the Door of Hope about the residence of the Baha'u'llah who had rented a room in the structure in question before it was destroyed.⁶⁹

The stylistic elements of the new structure built in its place are distinctly different than those of the other structures in the square. Instead of the horseshoe windows of the early Turkish period, the new construction uses three squared windows.(Plate 39) There are none of the circular windows found on other structures in the square. It makes use of a scraffito facade which can be described as a cement plaster which is decoratively scored.(Plate 40) However, unlike the complicated, all-over, abstract designs found scored in the stucco of other structures in Acre, the scoring here is very sparse and European, outlining the structural elements only. The feature of a clock is scored in the center of the facade, further drawing on European practice.(Plate 41) The central entrance of the building employs the Greek doric columns and entablature also prevalent in English architecture of this period.(Plate 42) These European stylistic preferences suggest that the structure was built after the British came to Acre (see below).

⁶⁹ Ruhe, 223.

BRITISH OCCUPATION

In 1918, Acre was captured by the British. During the British Mandate, Acre continued to expand beyond the walls of the old city toward the north and east, serving primarily as a penal colony. It also began to flourish as an agricultural center for the growing population around Haifa during this time. Suburbs rose outside the walls, and the British provided better health, education, and administrative services. The British Mandate began to establish public services in Acre at this time as well. As the Arab National movement grew in this region, both the British and the Jews became increasingly unwelcome in the city. By World War II, few if any Jews or British were left remaining in the city. In his text, The Walls of Acre, Morton Rubin tells us that,

Modernization came slowly to Acre during the period of the British Mandate. Old Structures and institutions sometimes found new uses. For example, the camel caravan stops were converted into truck repair stations, metal workshops, and processing plants for tobacco and olive oil. Almost no trading vessels called at the port, but fishing continued and found a ready market in the district and among tourists. The mosques and churches remained centers for religious and communal life. The British continued the tradition of assigning family affairs to the jurisdiction of religious courts. The walls of Acre were breached in two places to permit motor roads between the Old City and the New City, which was expanding due to the growth of population and the effect of prosperity. From a 1922 official census record low of 6420 residents, the population had to risen to more than 15,000 during the period of World War II.⁷⁰

In 1945, Percy H. Winter developed a redevelopment plan based on city survey report for the Public Works Department of the Government of Palestine.(Map 9) In his survey of the Old City, Winter "counted 8500 residents with an average of 3.2 persons per room.

⁷⁰ Morton Rubin, The Walls of Acre: Intergroup Relations and Urban Development, (New York: Holt Rinehart and Winston, 1974), 13.

Households averaged six or more persons, with several generations living under one roof. There was almost no town sewage, garbage disposal, or street repair service."⁷¹

MODERN HISTORY

In 1948 with the development of the Jewish State of Israel, the Jews took control of Acre, and at that time they adopted Winter's redevelopment plan as a part of their public policy. As thousands of Jews were relocated, the need became apparent for the establishment of new zones and the transformation of swamp and beaches into useable land.

In 1962 another survey was undertaken for the restoration of the Old City of Acre. Organized by city planner, Kesten, it emphasized the restoration and rehabilitation of the historic structures of the Old City which were falling into neglect.(Map 10) His survey analyzed population density and diversity, as well as the use, construction, and condition of the built structures. He devoted two maps to marking the archaeological remains of the Crusader city. He also noted the lack of modern utilities, and showed that sanitary facilities were almost completely lacking at this late date. Where bathrooms did exist there was rarely running water.

Today the Genoa Square shows a conglomeration of all its stylistic building periods. The streets in the square are not paved in the traditional sense. They are made up of large, flat stones of different shapes and sizes which have been used much like our cobblestone streets.(Plate 43) There are five entrances to the Genoa Square, only two of which are large enough for vehicles to pass through.(Plates 44-48) Trucks cannot pass through at all,

⁷¹ Rubin, 13.

and large loads of supplies are still brought through on horse and cart. All the passageways which enter the square are roofed by arches and in the northwest and southeast corners have been completely covered by vaulted passages. The buildings overlap each other, and often entrance to one can only be gained by crossing through another structure. The discrete squares known from Crusader times have been opened onto each other with a wide road between the north and south faces of the square.(Plate 49) The open spaces of the square serve mostly for parking, and children's play. Two general stores are found in the Genoa Square. The church is still in use as is the Bahai house of worship. The rest of the structures are used for residential purposes. A pita bakery lies just off the square. Those original first floor shops and stores are used today mostly as people's homes. The interior courtyards of the structures are intact, and it is in these spaces that the Muslim women interact. The Christian women are seen far more often in public out in the square.

BUILDING BY BUILDING SURVEY

The next chapter attempts to present a building by building survey of Genoa Square. Shown are the measured architectural drawings I produced on site in Acre denoting the materials and architectural details found on the facades of the present day structures as well as the condition of the buildings themselves. Accompanying this is a written discussion of the historical layers of each of these facades.

FACADE A, BUILDINGS 1,2,3

OMAYYAD. It is believed that this quarter of the city was not built until the Crusader era. Until the Templar fortress was built in the south, structures here would have been indefensible.

CRUSADER. The Rectangular Quarter from the Crusader period has maintained its original shape from the Crusader era (Map 4). The footprints of **buildings 2 and 3** still conform to the city plan of the Crusader Rectangular Quarter. (Map 4) The Kesten survey notes that during the Crusades these structures were only one story high so as not to rise over the sea wall. Although the street level in this part of the city is approximately seven meters higher today than during the Crusades, the first floor features of **building 2 and 3** still show some traces of the Crusader foundations. The lower left hand corner of **building 2** shows the top portion of a blind arch of Crusader design, as does the corbeled corner .

TURKISH. The survey tells us that the Turkish reconstruction came in one wave and created a town of unity. The facade of **building 1** has maintained almost all its original features. Not built until after the Crusades, its wooden doors, windows and shutters are fine examples of the Turkish manner.

In **building 2** there are several features that can be traced back to this reconstruction. The circular window is a feature that is repeated throughout the square and throughout Acre, and is one of the Turkish unifying features. The two windows below this are also original to the building as are their lintels. There is no trace here of stone breakage or fill in. The

two windows on the top floor of the center portion of this building are new additions, but the outline of the double arch window is still visible, and it is typical of Turkish design. The three windows on the top left portion of building 2 are also original. However, the lintel above them has been added in later years. Some of the original Turkish lime plaster remains on the left portion of building 2.

In building 3, we see again the typical circular window of Turkish design. This is the only original Turkish feature on the facade.

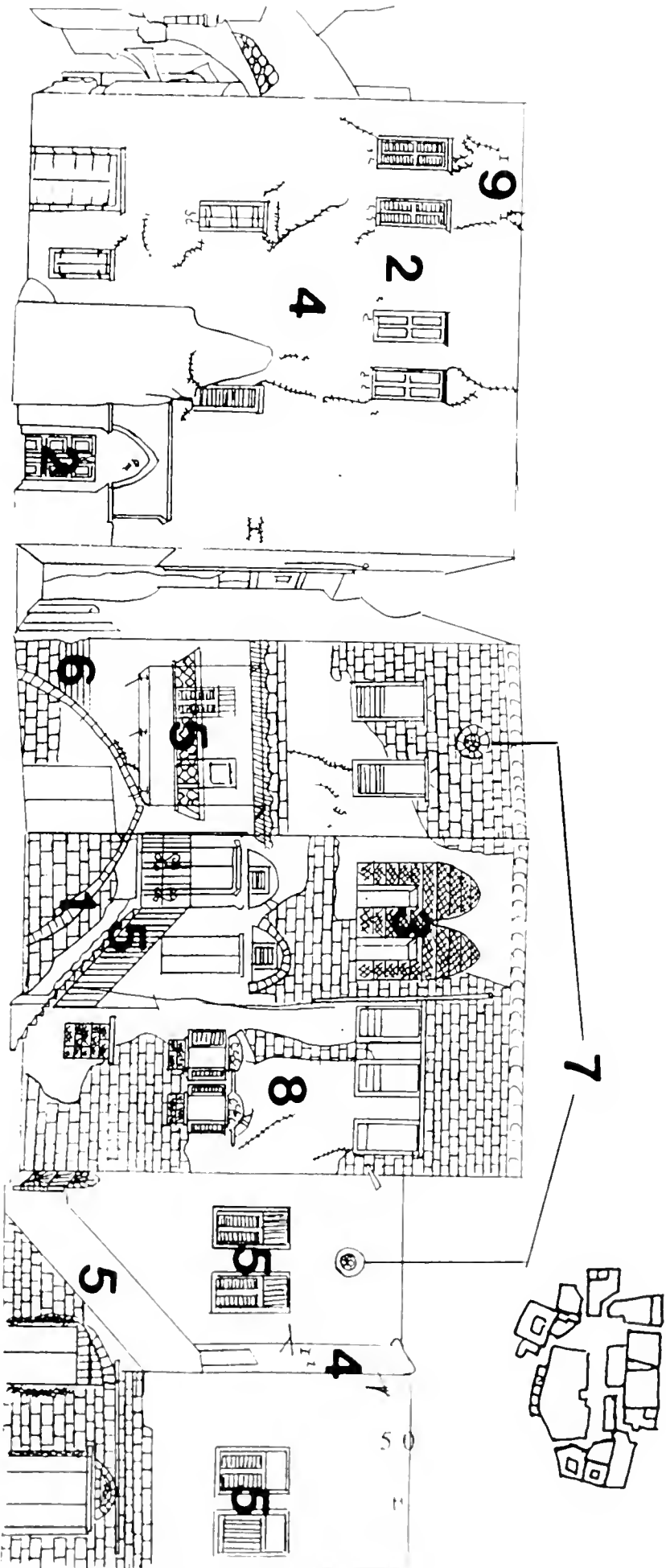
MODERN. Building 1 has been recently replastered with a cement plaster and painted. Cracks along the roof line and the presence of iron beams at the roofline suggest that underneath the plaster a new concrete block roof will be found (these roofs being too heavy for the wooden structure below were often supported by iron beams in the modern period, whose differential expansion causes the stone and plaster around them to crack).

All the second and first floor windows of building 2 are modern additions. They have either been filled in with cement block, or the original wooden frames have been replaced with modern aluminum windows. The balustrade, and roof terrace of building 2 are new additions as is the stair which runs to the second floor. The rest of the plaster is a new coat of cement plaster. The roof here is modern as well, and is made with cement block.

All the original Turkish windows on building 3 have been replaced with aluminum windows. The two doors on the lower level have been replaced, cement block has been used to compensate for the smaller doors. The cement stair and iron gate are modern features as well. The facade of this structure has been plastered over with a cement plaster.

- 1-Crusader blind arch
- 2-Original Turkish doors, windows, shutters
- 3-Trace of double arch Turkish window
- 4-Cement plaster
- 5-modern elements: aluminum windows, doors balustrade, roof terrace, stair, gate

- 6-Crusader corbelled buttress
- 7-Typical Turkish circular window
- 8-Traditional lime plaster
- 9-Cracks and i-beam along new concrete roof line



FACADE B

CRUSADER. This building contains the remnants of the guard tower for the Rectangular Quarter. During the Crusades this structure dominated the Neutral street. Kesten's survey notes that the footprint, foundation, and some of the first floor of this structure still maintain its Crusader material. The western wall shows the stone work of the Crusades, and the corbeled buttress on the western edge of the facade is another typical detail from the Crusades. The building to the immediate north of this structure is a large hall. Its vaulted ceiling is still supported by its original Crusader pillars. The north wall of this hall is extremely thick and is thought by Kesten to be part of the northern fortified boundary of the Genoa Quarter.

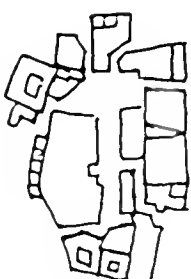
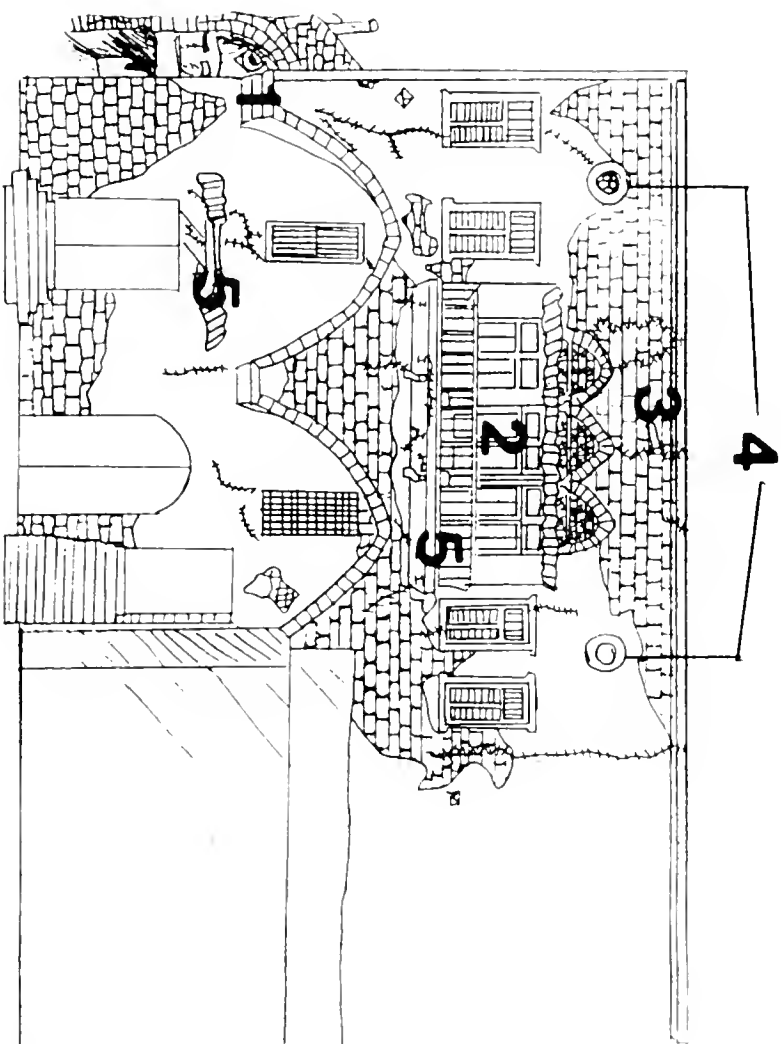
TURKISH. There are still many Turkish architectural details on the above floors of the facade of this structure. Again we see the small circular windows of Turkish design (both filled in modern times). Although filled in in modern times the triple arched window, typical of Turkish design, can still be seen on the facade. The windows to either side of this triple arch are new, however, their frames resemble the traditional Turkish design. Portions of a decorative ceiling on the second floor are intact, and remnants of carved screens for the horseshoe arched windows have been found.

MODERN. Both the lower level windows have been added to the facade of this structure in modern times. The cracking of the plaster at the base of these windows suggests that these windows were a modern alteration of the original structure. The original wood windows on the upper floor have been replaced with aluminum windows. The balustrade

and roof terrace of the above floor balcony is a modern addition as is the metal roof terrace over the door on the first level. The cracking along the roof line suggests again the introduction of a new concrete block roof.

- 1-Crusader corbelled buttress
- 2-Typical Turkish tripple arch horshoe window
- 3-Concrete block roof indicated by cracking along roofline

- 4-Typical Turkish circular windows
- 5-Modern elements, aluminum windows, balustrade, roof terrace



FACADE C, D

CRUSADER. Kesten's survey shows that originally during the Crusades another structure stood here. At one time a structure stretched from north to south sealing the square off from the other quarters.

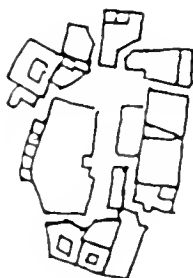
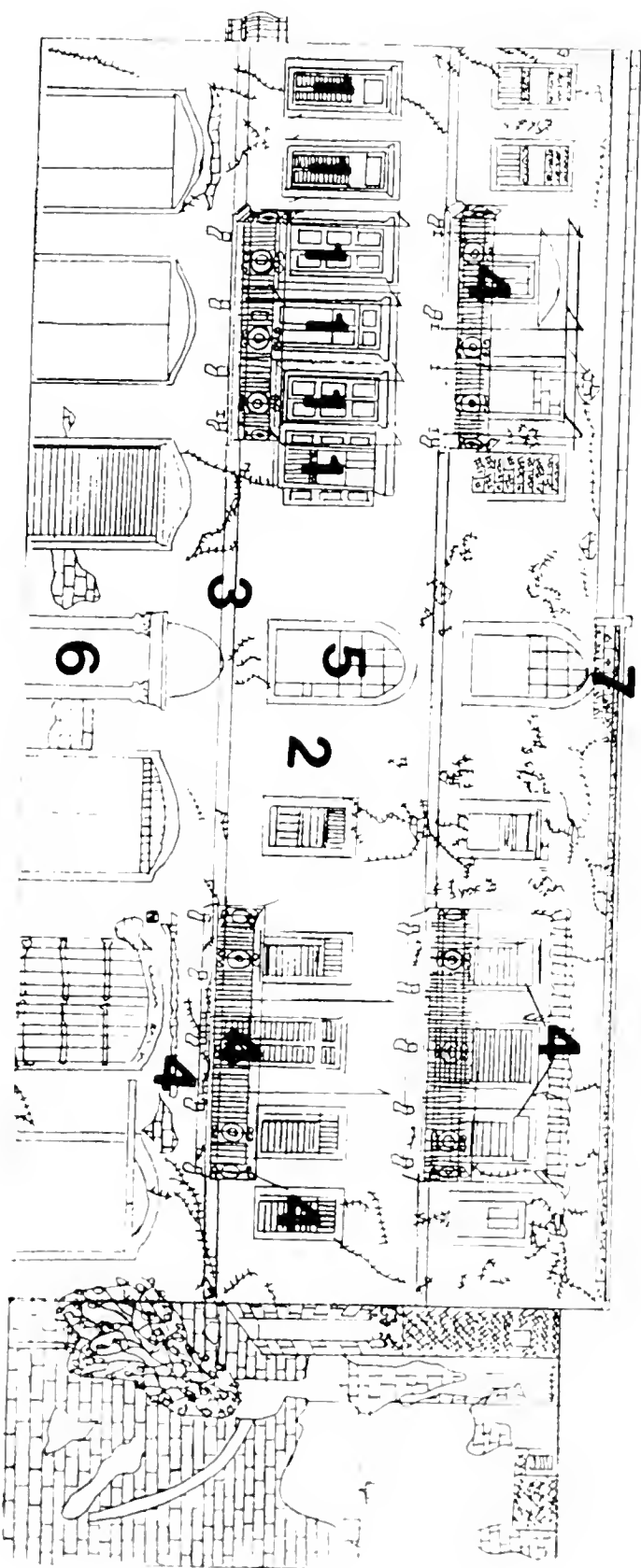
TURKISH. In 1862, The Baha'ullah notes that a structure of some sort still stood on this spot, while maps from the second decade of the twentieth century show that it had since been destroyed and replaced with a modern structure. Many elements of the new structure have been realtered in more recent times, however, on the facade, four examples of the original wooden windows and frames can be found on the second floor western half of the structure. The arched windows which are found on the second and third floors of the building also date to its original construction. It is most likely that the cement plaster on this structure is original to its construction. It is interesting to note a European influence on the architectural details of this structure. The columns framing the front entrance are not found elsewhere in the square. Neither is the scored plaster. Typical scoring of plaster in Acre follows the Omayyad tradition of overall ornamental design. Here we see a subtle outlining of architectural features which resembles a more European technique of plaster scoring. The wooden door on the western face of this structure is also an original feature.

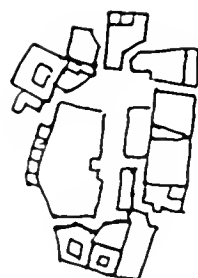
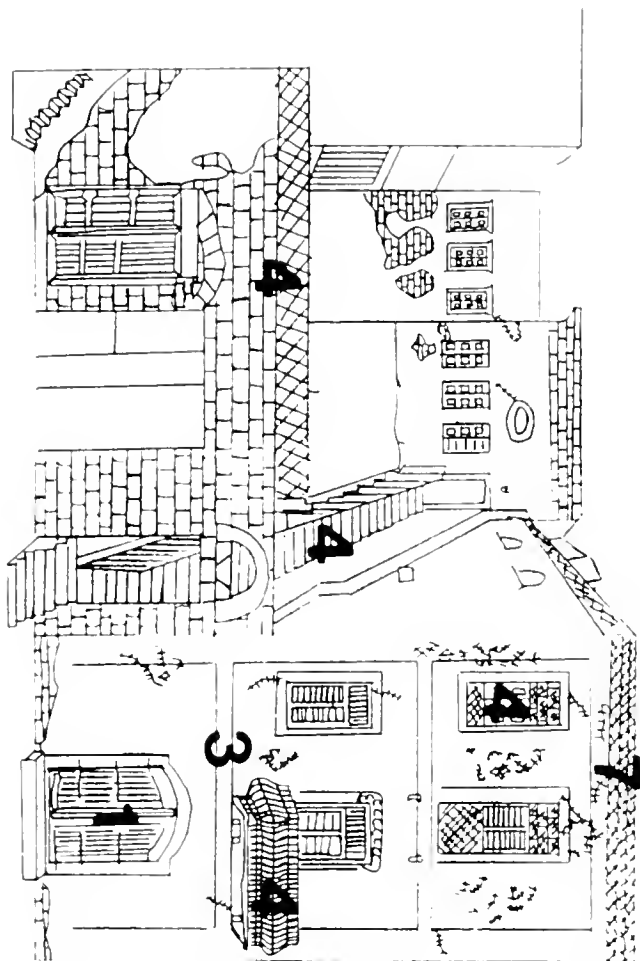
MODERN. Since construction several modern additions have been made to this structure. The balustrades and roof terraces all date to recent times. Almost all the wooden windows of both facade C and facade D have been either replaced with aluminum windows or have been filled in. Cracks along the roof line suggest that a new concrete block roof has been

added. The concrete stair running up the north face of the building is of modern construction, as well.

1-original wooden windows, frames, and doors
 2-original cement plaster
 3-European scoring of plaster
 4-Modern elements, balustrades, roofs, aluminum windows, concrete stair

5- Typical turkish arched windows
 6-European columns framing entrance
 7-New concrete block roof





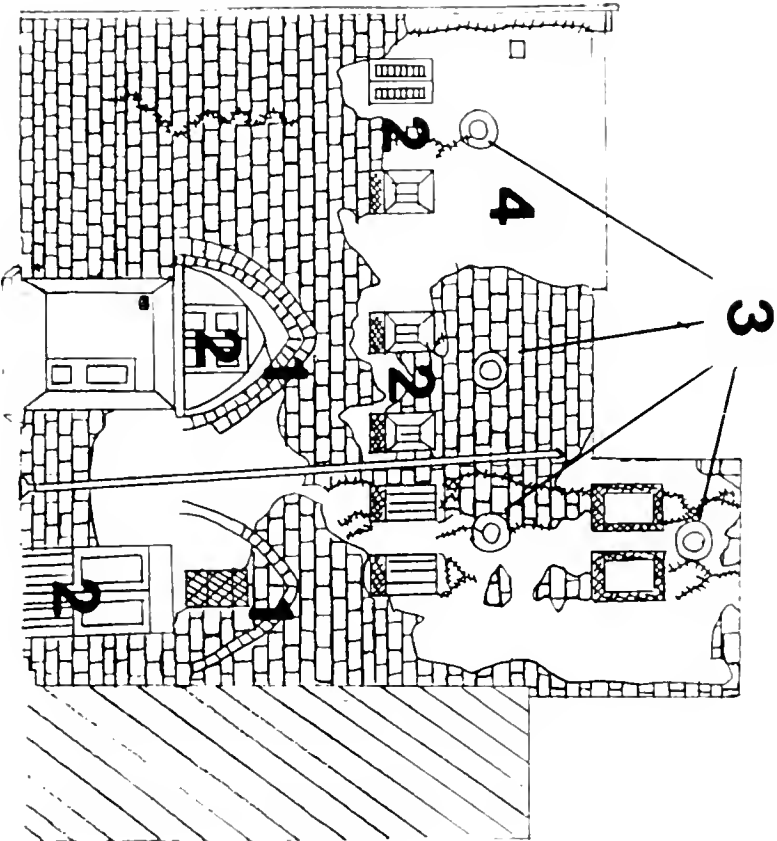
FACADE E

CRUSADER. The Kesten survey shows the footprint and foundation of this structure to be typical of a Crusader mansion. The remains of the first floor walls and vaulted ceiling are still extant. The plan shows the typical plan of a Crusader mansion in which large often vaulted rooms surround a rectangular courtyard and into which all the doors and windows open. The west wall has been determined to still have most of its Crusader material. Blind arches appear on both the south and east facades which resemble Crusader stylistic design. The walls here were thicker because the building lay on the boundary of the quarter and needed stronger defenses. Historical accounts place this as the "old Palace" of the Genoese Quarter in which the arcaded "ground floor was used as the Curia (the senate) of the Commune".

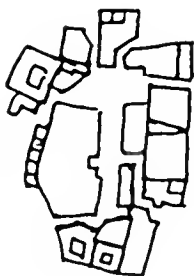
TURKISH. The only features of the Turkish design still extant on this facade are those of the circular windows seen elsewhere in the square.

MODERN. The above floor windows all have been made smaller and replaced with aluminum frames. Concrete block has been used as filler. Both the doors and windows on the lower floor have been altered and replaced with aluminum features. The plaster here is a new layer of cement plaster.

1-Crusader blind arches
2-Modern elements: aluminum windows



3-Typical Turkish circular windows
4-Plaster is new cement plaster



FACADE F

CRUSADER. Building 1 of this facade is an example of a typical Crusader mansion. Only half of the building can be seen from the square, the other half lays behind facade E. On the first floor of this structure there are still remains of some of the walls and vaulted ceilings from Crusader times. The floor plan still shows large rooms arranged around a rectangular courtyard. The entrance on the square today has actually been opened into one of the rooms. The original entrance can be seen from the courtyard and is found on the west face of the building. A side corridor leads to the kitchen and storerooms and such. Above some of the doors in this building are signs carved in stone. Most of the walls here have the tell-tale Crusader thickness necessary for the fortification of the quarter. The projecting arch on the facade of this structure most likely dates back to the Crusader period.

Building 2, according to Kesten, shows no architectural remains which would trace it to the Crusader period, and the majority of its features appear to be from a later date as well.

TURKISH. Building 1's use of metal shutters to close windows is a Turkish feature. The remnants of the Turkish lime plaster can be seen on a small portion of this building. Plaster was used during this period to unify the facades of the city.

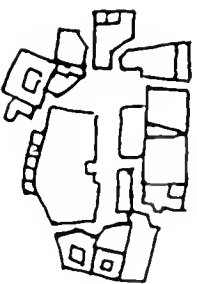
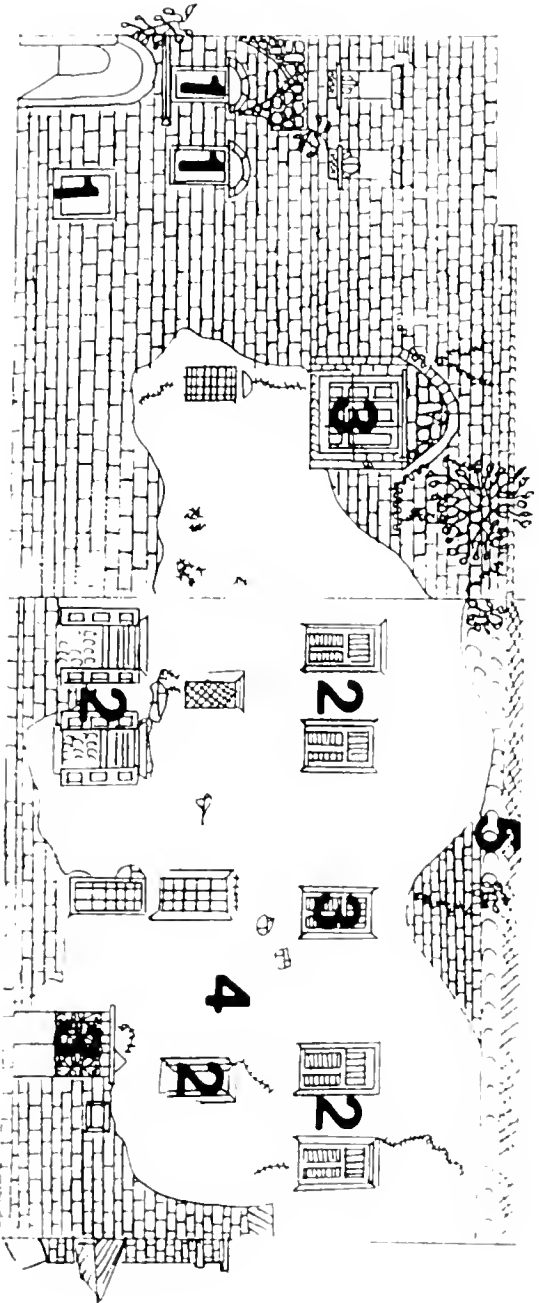
Building 2 was most likely constructed under the auspices of the Turks. It still has its original lime plaster as well. The wood frames of the windows are original and would have been completed with shutters like those on the first floor. Ornate grillwork was known to be used on the lower windows.

MODERN. **Building 1** shows the use of a new concrete block roof that has caused extensive cracking along the substrate. The large arched window has been filled in and replaced with aluminum. This has exacerbated the cracking and weakened the wall. Most of the grillwork is of modern making. It can be seen that the second floor windows have been made smaller.

All the third floor windows of **Building 2** have been replaced with aluminum. I believe the two central windows on floor one and two to have been added at a later date. This could be determined better if it is found that under the plaster the stones have been broken. The shuttered windows on the first floor have been filled in with cement. A new concrete roof has been added and is responsible for the large cracks extending down from the roof line.

- 1-Typical Turkish metal shutters
- 2-Original Turkish wooden window frames
- 3-Modern elements: grillwork, aluminum windows

- 4-traditional lime plaster
- 5-New concret block roof



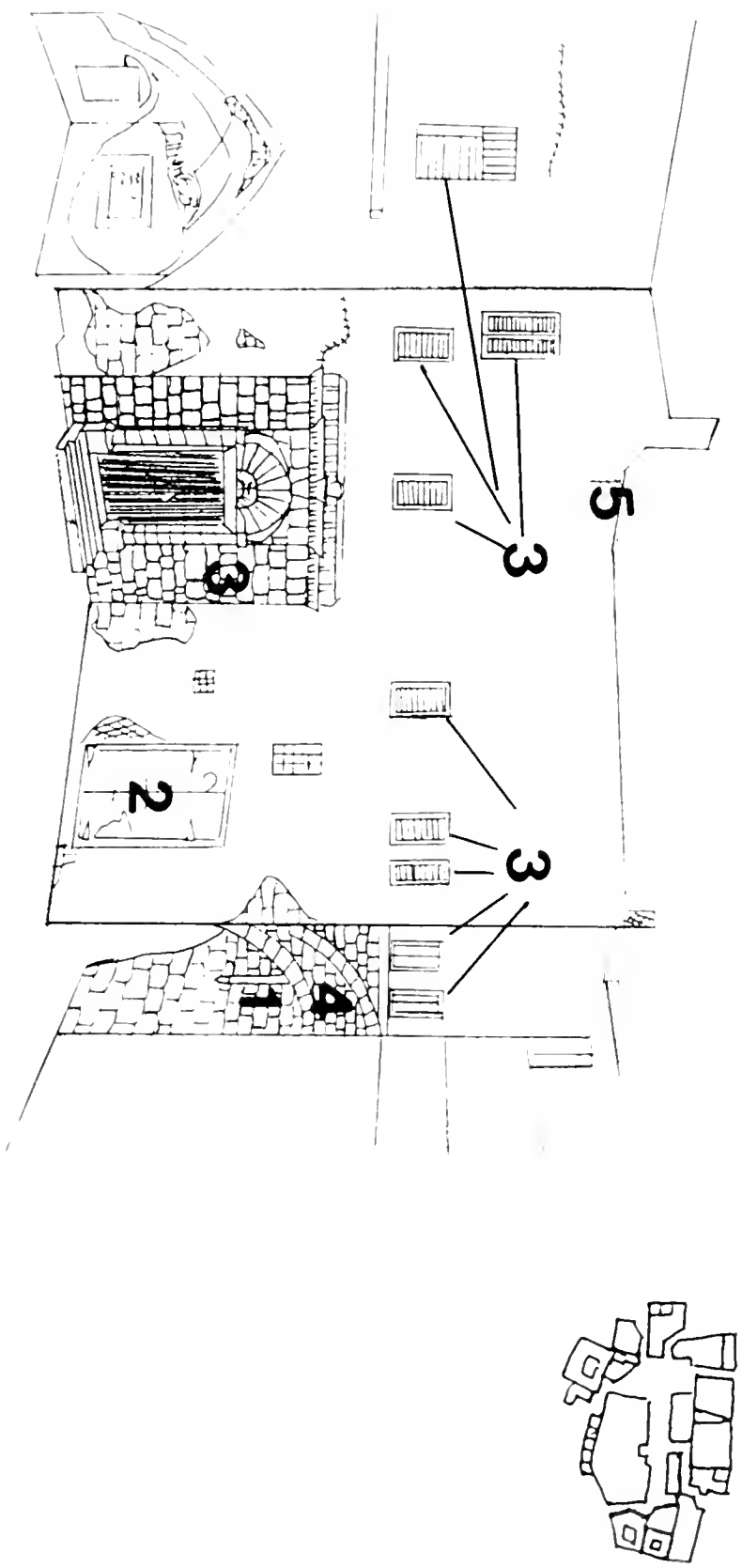
FACADE G

CRUSADER. Aside from the arch on the far right of this facade, nothing on this facade is from the Crusades. The arch shows not only the typical passageway construction of the Crusader fortresses(discussed in Facade H), but also shows the use of ceramic gutters, and down spouts. The facade is, however, attached to the original hall which stood on this square. This hall is thought to be part of a monastery attached to the church. Its plans, foundation, and ground floor suggest a building with a central atrium around which a group of rooms are arranged. The hall is still complete and is one of the best preserved remains in Acre. The vaulted ceiling is still intact. The exterior wall is believed to be on the border of the quarter. Its walls are thick with large niches which would have been used as defensive posts in times of attack.

TURKISH/MODERN. Most of the facade of this structure is modern. All the upper floor windows are of aluminum. The plaster is a cement plaster. The grill work, too, is of a modern date. It is difficult to tell, however, if the substrate was built by the Turkish or has been filled in in this century. An examination of the stone lying beneath the plaster might prove more conclusive. The design of the entrance, however, mimics the style of the church doors across the way.

- 1-Remains of original Crusader ceramic gutter
- 2- Original Crusader windows
- 3-Modern elements: aluminum windows, balconies

- 4-Crusader blind arches
- 5-New concrete block roof



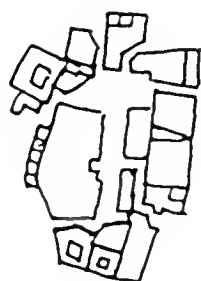
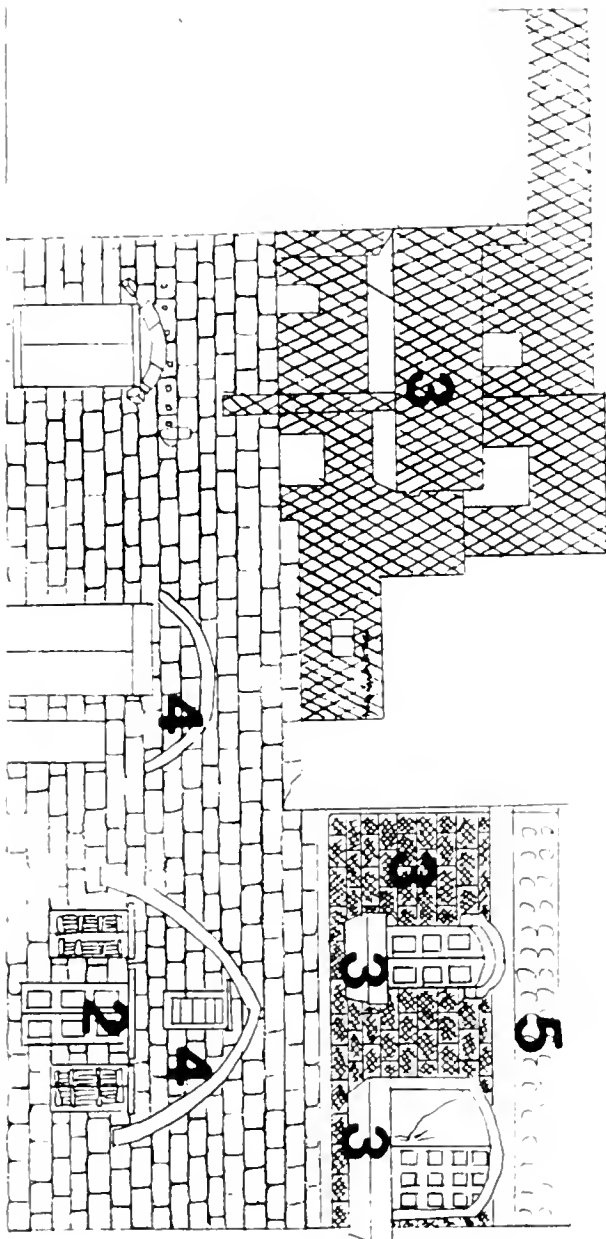
FACADE H

CRUSADER. Kesten's survey shows this structure to be one of the guard rooms which flanked the defended passage from the Neutral street into Genoa Square. The plan and first floor of this structure show the typical format of a Crusader defensive gate. The passage which goes through the structure (not depicted in elevation, but lies to the left of the structure see Facade G) is built in the form of a cone which narrows as the square is approached. The first floor of this facade has all its Crusader elements. Within the passage the remains of a ceramic gutter can be detected. The three blind arches on the facade are of Crusader design. The two windows flanking the door on the first floor are original to the structure as well. The interior behind this trinity of windows houses the graves of the bishops who have had their seat in Acre since the Crusades.

MODERN. The above floors and roof are of entirely new construction, built of concrete and concrete block. The windows and balconies on these upper floors are also modern, and made of mostly aluminum. There is no plaster remaining on this structure.

- 1-Remains of original Crusader ceramic gutter
- 2- Original Crusader windows
- 3-Modern elements: aluminum windows, balconies

- 4-Crusader blind arches
- 5-New concrete block roof



FACADE I

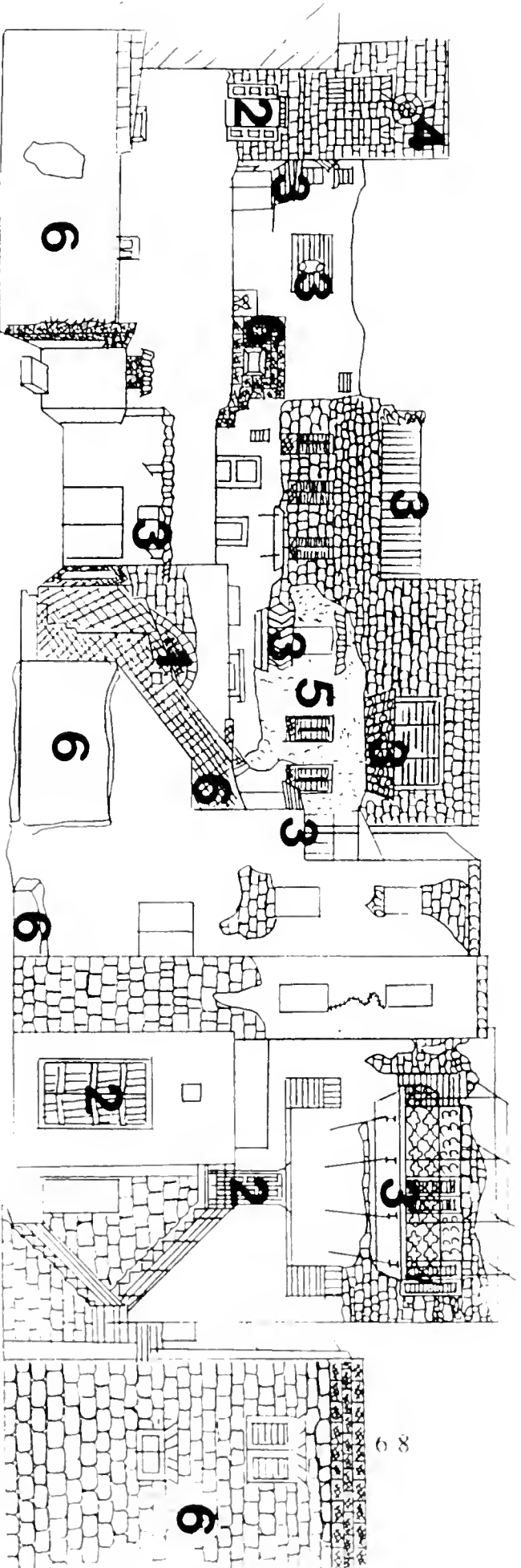
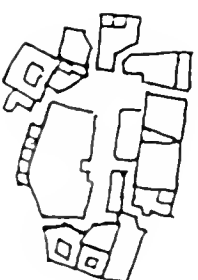
CRUSADER. The original Crusader footprint of this facade is intact, however, the elevation has been obstructed by later additions. Some traces do exist of Crusader details. The arch on the lower level of the facade is such an element.

TURKISH. On the far left of this facade remnants of the Turkish architectural details can still be seen in the small round window on the above floor. The wooden frame and shutters of the second floor window also can be traced back to the Turkish reconstruction. A small patch of the original lime plaster is still in existence on the second floor of the furthest recessed building.

MODERN. Almost all of the Turkish windows and doors of this facade have been replaced with aluminum or other metal features. All the balustrades and roof terraces are of modern production as well. Many new constructions have been built onto the Turkish facade. Many of these new features are built of concrete block. The majority of the plaster on the facade is a new cement plaster.

- 1-Crusader blind arch
- 2-Original Turkish wooden windows and frames
- 3-Modern elements: aluminum windows and doors, balustrades, roof terraces, cement plaster

- 4-Typical Turkish circular window
- 5-Original patch of lime plaster
- 6-Concrete block additions



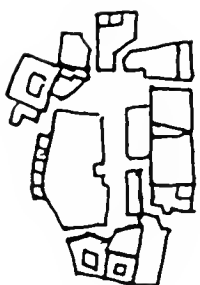
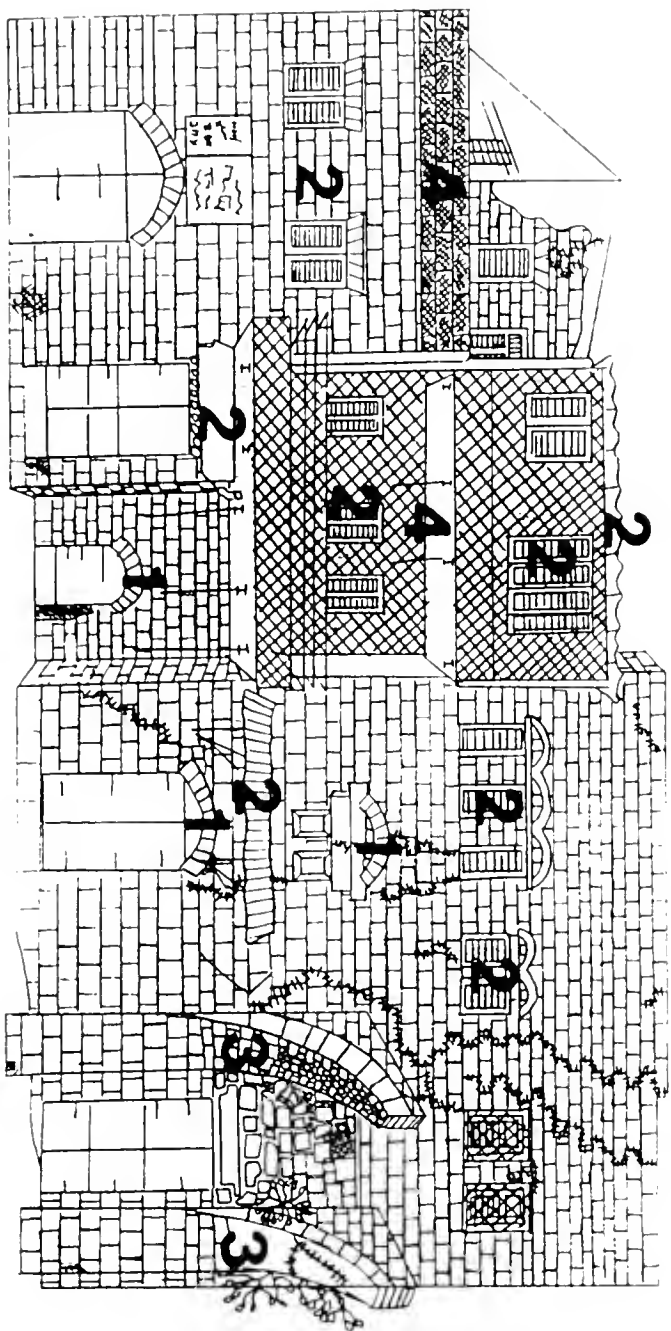
FACADE J

CRUSADER. This structure, although one facade, must be seen as two separate structures. Only the right half of the structure is of Crusader date. This structure was originally attached to the western gateway to the Genoese Quarter. Its floorplan resembles that of a Crusader mansion; a central courtyard with a series of rooms arranged around. The stones are roughly cut as if by chisels and hammer. The use of architectural arches over the doors can be traced to the Crusades as well. The two projecting arches are also typical of Crusader design.

MODERN. The left portion of this structure is new. The blocks have been cut with more exacting, advanced tools than the Crusaders had available. All the above floor windows of both structures now have modern aluminum windows. A concrete block roof is on the new structure, and a poured concrete set of balconies has been added to the facade of the old structure. The tin roofs on these structures are modern as well.

1-Crusader architectural arches
2-Modern elements: aluminum windows, tin roofs

3-Crusader projecting arches
4-Concrete block roof and additions



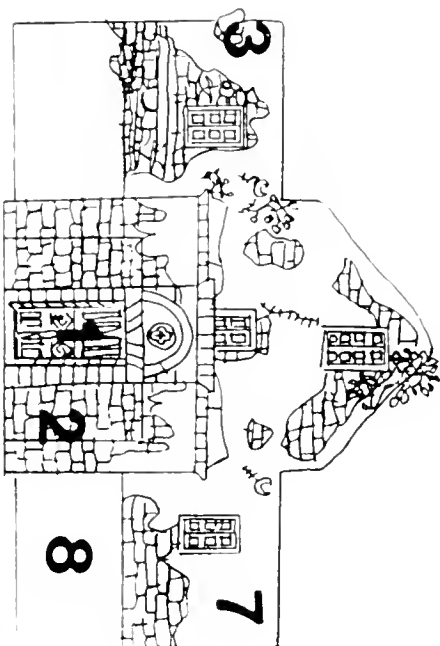
CHURCH

CRUSADER. The foundations of this church can be traced to the original Genoese church built here during the Crusader occupation.

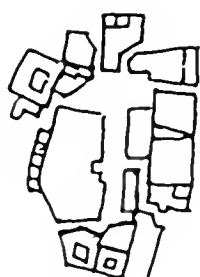
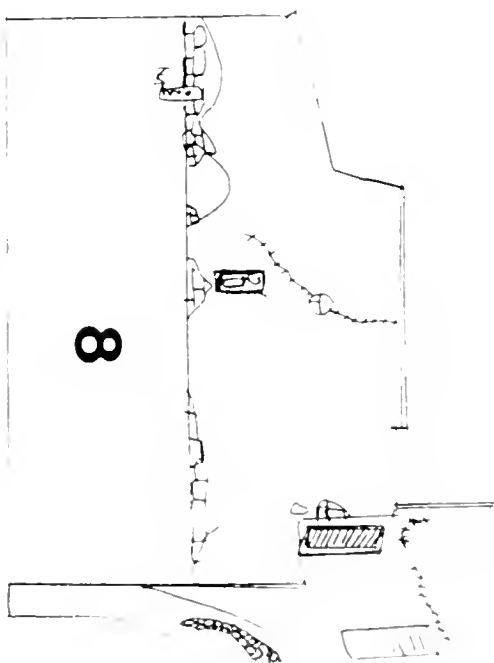
DRUSE. The Emir Fahr ed-Din restored the Church of St. Nicholas for the Europeans. By his design it had a choir and three naves and side aisles. It still contains part of the carved wooden sanctuary screen of the Cypriote style from the 17th and 18th centuries. Due to its tie to the Druse Emir, the decorative features on the facades of this structure are very different from all the other buildings in this square which were constructed under the auspices of the Crusaders or the Turks. The wooden doors have ornately carved decorative panels of geometric design. The windows are most likely original to the structure as well. The projecting entrance with their cornice have a Greek regularity. The structure is inscribed with Greek and Arabic panels on the south face. The remains of the drainage system of the building is still intact. Ceramic gutters and down spouts can be found on the western, northern and southern facades. The plaster on the upper half of the walls is of lime composition and may be original to the Druse construction, however, it is more likely to be traced to the reign of Jassar who unified the city's appearance with the application of a lime plaster.

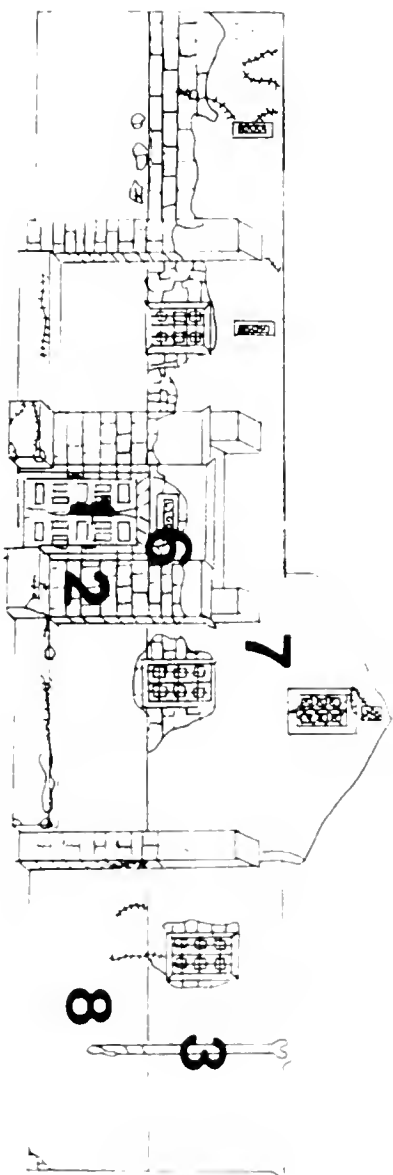
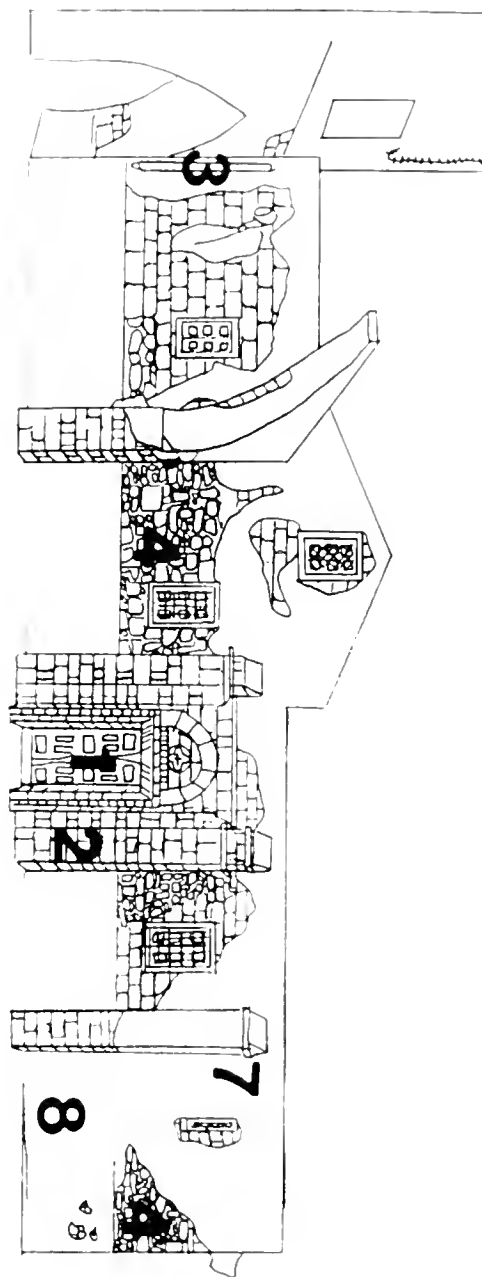
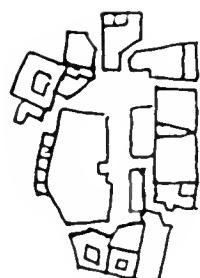
MODERN. A modern stone sanctuary screen has replaced the wooden one from the Fahr ed-Din reconstruction. The church could not have escaped damage from the 1831 and 1840 bombings. The loss of plaster shows that portions of the building have been rebuilt with rubble stone. This is most visible on the north and west facades. The plaster on the lower portion of the church is a recent layer of cement plaster.

- 1-Ornately carved wooden doors
- 2-projecting entrance
- 3-ceramic gutters
- 4- damaged walls



- 5-original windows
- 6-inscribed panels
- 7-lime plaster
- 8-cement plaster





RECOMMENDATIONS

This final chapter is comprised of a list of my recommendations for the restoration of Genoa Square in Acre based on both my physical analysis and archival research of the site

INTRODUCTION

As part of the Antiquities Authority's restoration project currently being conducted in Genoa Square, I conducted a preliminary conditions survey of the structures which stand today. My aim was to document the elevations, record the materials used (both ancient and modern), critique the current utilities and report on the apparent condition of the structure and facade. The use of these findings will be in applying them to a restoration plan for the whole square, and in time the historic core of the old city.

When dealing with a city of so many layers it is difficult for a historian to pick and choose what periods should be emphasized at the expense of others. This issue is even more difficult when dealing with an inhabited city. The preservation plan must reflect not only the concerns of history but the realities of a living city. A line must be drawn between the historic ideal and the changes that have been and that are to be made. In the following discussion on the future restoration of Genoa Square, I have tried to temper these two issues in order to create a restoration plan which preserves the historical material of the site without smothering the growth of the living city. The fundamental platform of this plan is to remove and replace detrimental new materials which have been introduced to the site with materials which are more compatible with the materials used in the existing structures. The second strategy is to repair and replace those architectural elements which are inherent to the site and which help to define it stylistically. The third and, perhaps most important aspect of this plan, is the accompanying restoration of the standard of living within the old city of Acre. In this program the Antiquities Authority is training local forces in the restoration of their own structures. The act of rejuvenating the city serves to strengthen the

economy of the city, directly, by providing employment and, indirectly, through tourism which increases as the city is restored.

RECOMMENDATIONS

In general, I found the character of the square to be obstructed by the haphazard introduction of some modern materials into the square. Aluminum and iron have been introduced into the stone structures whether for windows, or as additional support for balconies and roofs.(Plate 44) Due to differential expansion and corrosion, these metals have caused the stone facades to crack, and in some instances the interiors of walls as well. The cracks in the facades allow water more access to the metals within the stone which, in turn, aggravates the corrosion of the metals and hence widens the cracks.⁷²

The introduction of concrete blocks for the roofs has also proved detrimental to the structural stability of buildings. The weight of these blocks is too great for wooden joists and has caused cracking and fractures along the roof line of the structures where it has been applied.(Plate 50)⁷³ In addition, the rigidity of the cement material in comparison with the softer stone of the substrate has created additional wear to the substrate. Where the roofs have failed, water damage has rotted the ceiling joists and destroyed some of the decorative wooden ceilings within the buildings. The use of Portland cement for pointing repairs and

⁷² Sam Harris, Lecture on Differential Expansion, from course entitled Material Diagnostics, University of Pennsylvania (Fall, 1992).

⁷³ Yakov Shefer, Discussion in reference to ongoing restoration of Turkish Mansion in Genoa Square in Acre, Israel under the auspices of the Antiquities Authority(Summer 1993).

plaster has added to the deterioration of the softer stone masonry of the structures.

Abrasion is slowly grinding the stone to powder.⁷⁴(Plate 23)

These detrimental materials should be removed and appropriate materials and technologies used to replace them. The aluminum windows should be replaced with wooden windows and shutters in traditional styles similar to those still in evidence in the square.(Plate 32)

The roofs should be replaced with lighter materials with which the Antiquities Authority is now experimenting. In addition, the cement mortar and plaster should be replaced by a softer lime-based plaster, such as the plaster seen on the facade of the building to the south of the church.(Plate 50) Some examples of the original lime plaster and mortar remain and should be sampled and their composition analyzed for use as replacement materials. The same should be done with the windows. Traditional materials and styles can be found on select structures in the square. In addition, the iron I-beams must be removed if possible. They were used as extra support for the heavy concrete roofs and balconies, but due to their differential thermal expansion from the surrounding stones, they are responsible for the vertical cracking of the facades.

In Genoa Square, the structures have been augmented with new technologies. Electric wires cross the streets and run along the outside faces of the buildings. Pipes run along the structures in very unsubtle ways.(Plate 51) It is my recommendation that there should be a more discreet channeling of wires. Furthermore, a more effective system of gutters should be constructed than exists today.

⁷⁴ Yakov Shefer, Discussion in reference to the deterioration of stone at the Khan Al Umdan in Acre Israel under the Auspices of the Antiquities Authority (Summer 1993).

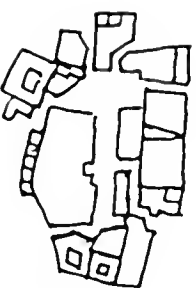
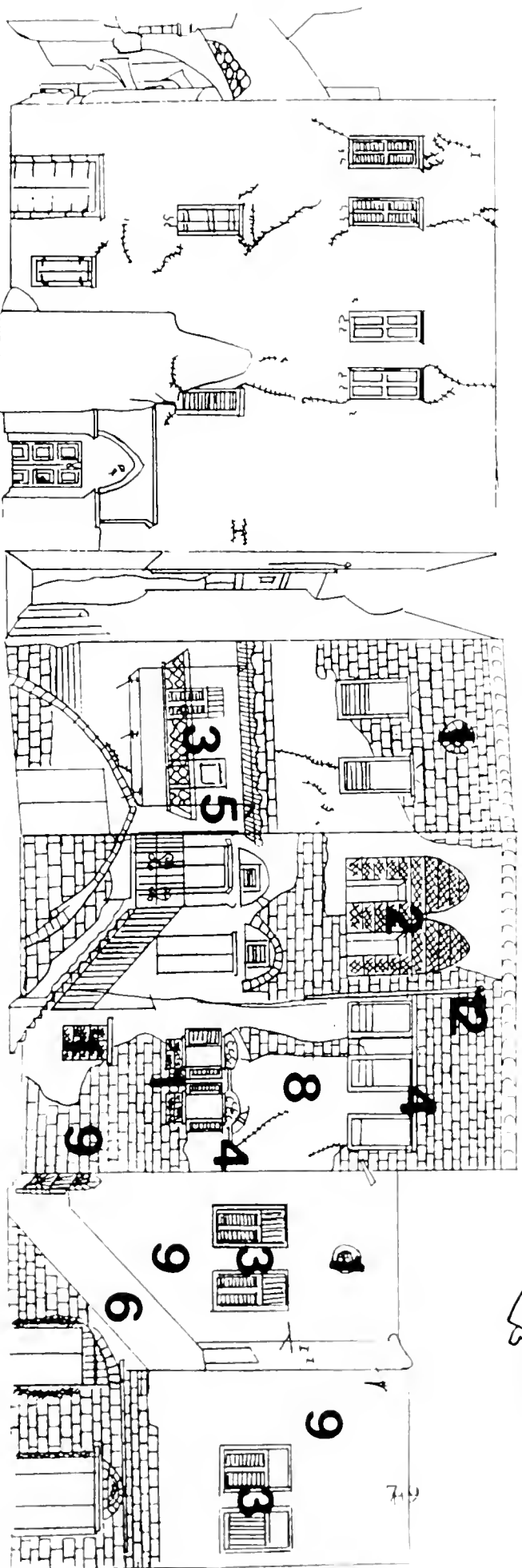
Historical description suggests that Jazzar's restoration campaign gave the city a uniform appearance. Since the majority of visible materials come from this later campaign, it is my recommendation that the restoration of Genoa Square attempt to emphasize this uniformity of style that is reminiscent of the original structures. This can be done by removing, as described before, the detrimental modern materials from the facades of the buildings (this includes the balustrades, balconies, tin awnings, aluminum windows, concrete plaster and pointing, as well as the concrete roofs), and replacing them with original materials and styles. Structural damage, cracks, and lost stones should be repaired, and the facades replastered with an appropriate plaster based on existing samples.

Those structures which are remnant from the Crusader period, or that recall the rule of Fahr ed-Din, should be preserved as best as possible. Features such as the conical defended entrance in the south east corner of the square should be maintained as part of the original Crusader city plan. The narrow winding streets of the Crusader period are still intact from this square and should be maintained where possible, as should the stone paved roads. Those ground floor remains of the Crusades should be maintained and in some way delineated for the visitor (even if this delineation is only noted with a plaque, pamphlet, or recitation).

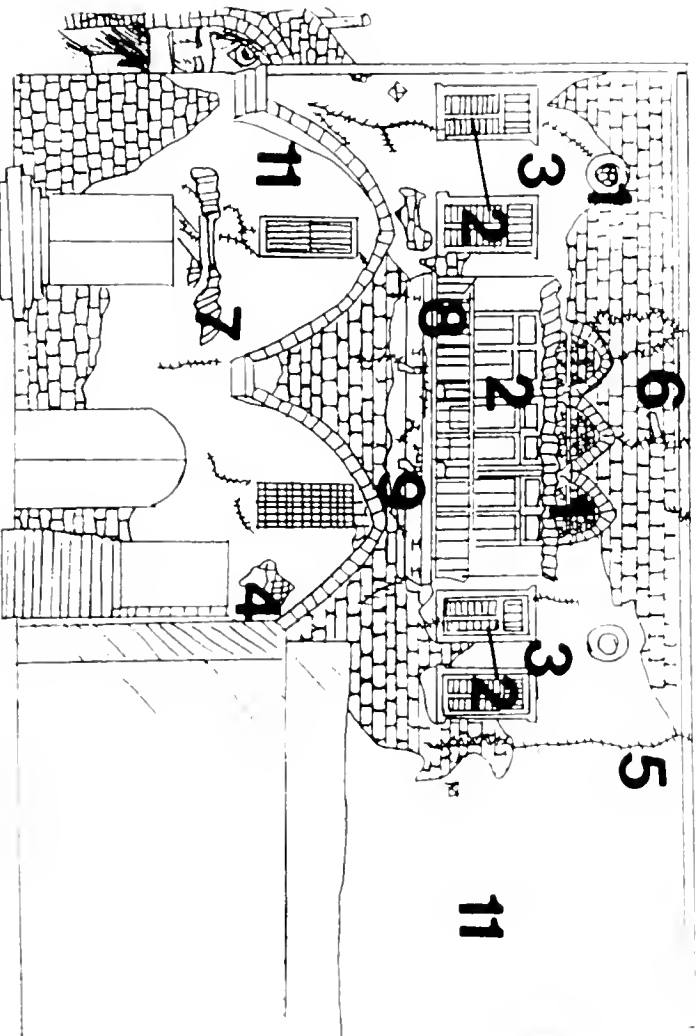
The following drawings are annotated with my building by building preservation recommendations to the Israeli Antiquities Authority.

- 1-Open cement filled windows
- 2-Recreate arch window with column
- 3-Replace aluminum windows with historically accurate wood windows and shutters
- 4-Remove lintels to separate windows
- 5-Remove balustrade and roof of terrace, replace with historically accurate materials and details
- 6-Remove stair and replace with historically accurate iron stair

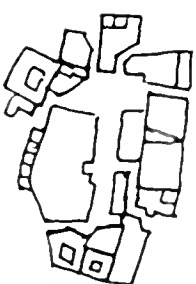
- 7-Remove cement pointing and repoint with lime mortar
- 8-Test existing lime plaster for original constituents
- 9-Remove cement plaster and replaster with lime plaster
- 10-Use a stronger plaster for the basement level
- 11-Install new zinc gutters
- 12-Install non-exterior pipe and electrical system



- 1-Open concrete filled windows
- 2-Replace aluminum windows with historically accurate wood windows and shutters
- 3-Repair original wood frames around aluminum windows
- 4-Repair decorative element over door
- 5-Repair structural damage which may have aggravated crack
- 6-Look for and repair structural problems reflected by cracks along roof-line
- 7-Remove roof over door

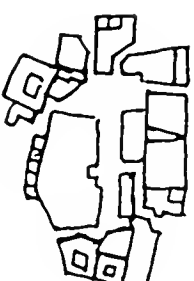
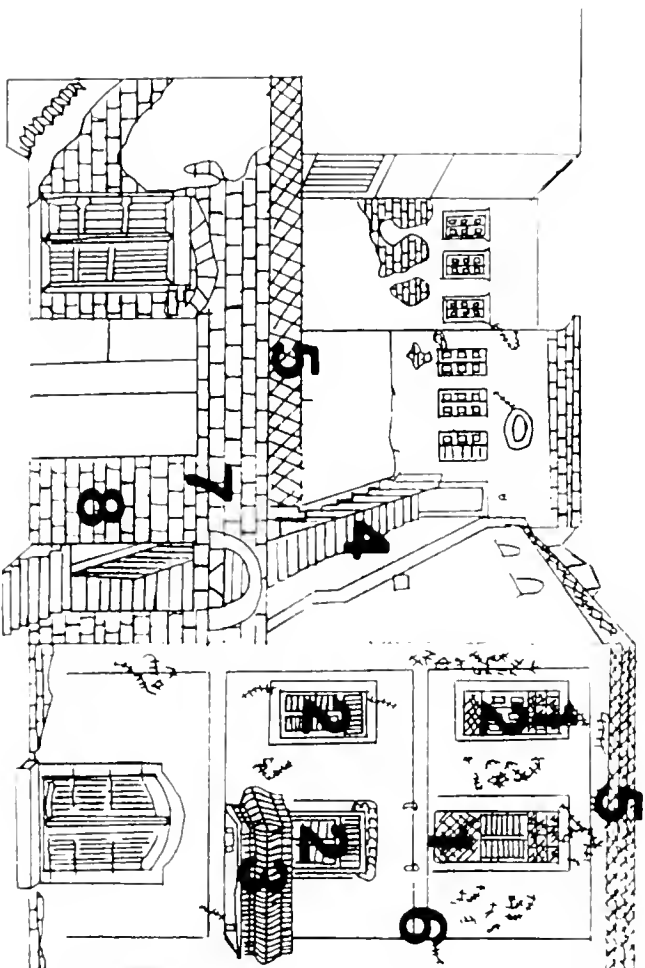


- 8-Replace balustrade and roof of terrace with historically accurate m.
- 9-Repair cantilevered porch
- 10-Repair lost stone and replace cement pointing with lime pointing
- 11-Remove cement plaster and replace with lime based plaster
- 12-Use a stronger plaster at basement level
- 13-Install new zinc gutters
- 14-Install new non-exterior pipe and electrical system



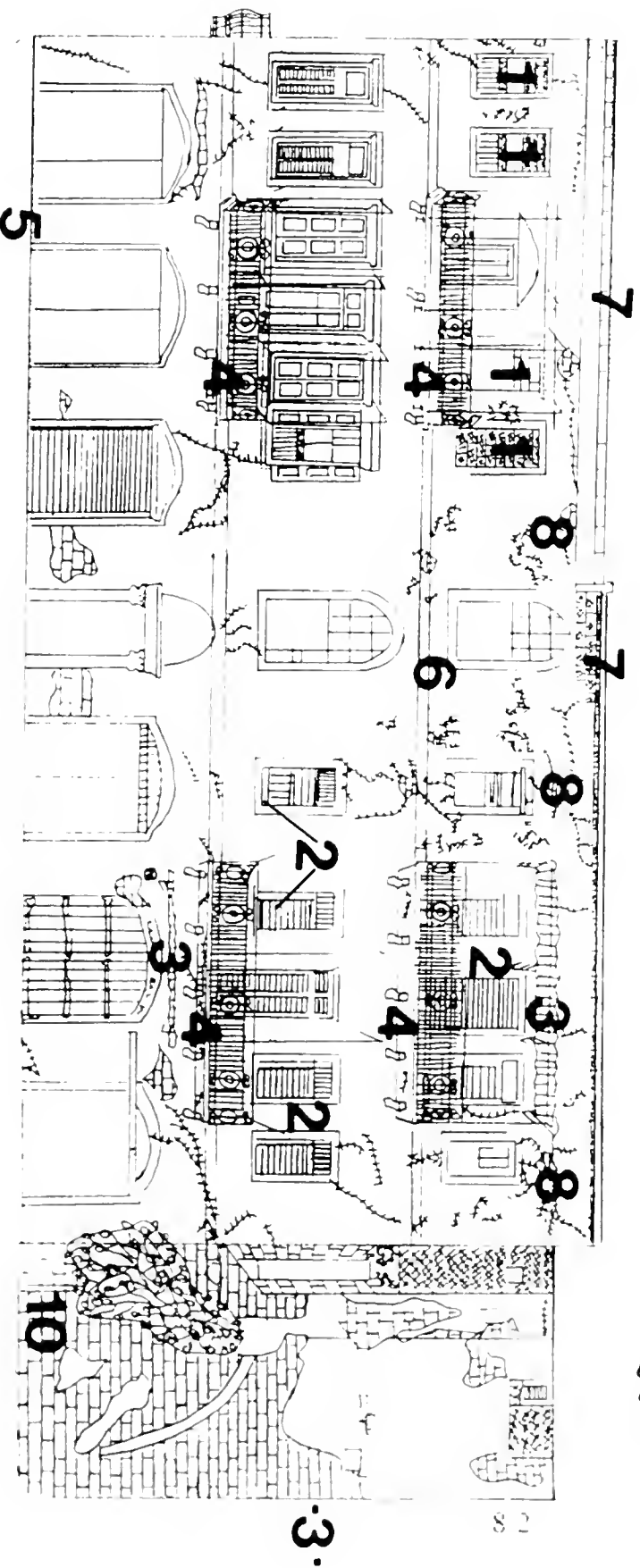
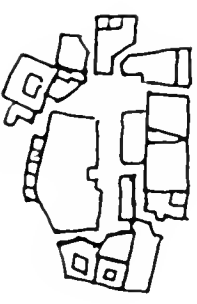
- 1-Open concrete filled windows
- 2-Replace aluminum windows with historically accurate wood windows and shutters
- 3-Reconstruct original second floor balcony
- 4-Cover stair with roof
- 5-Remove concrete roof to alleviate structural damage

- 6-Document decorative plaster on building and repair
- 7-Replaster rest of facade to unify
- 8-Repair lost stones
- 9-Install new zinc gutters
- 10-Install non-exterior pipe and electrical system

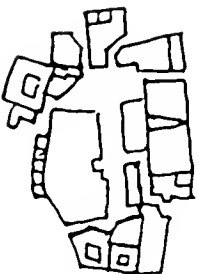


- 1-Open cement filled windows
- 2-Replace aluminum windows with historically accurate wood windows and shutters using extant windows as a model
- 3-Remove tin roofs and replace as above
- 4-Repair reinforced concrete cantilevers
- 5-Remove concrete from base of building

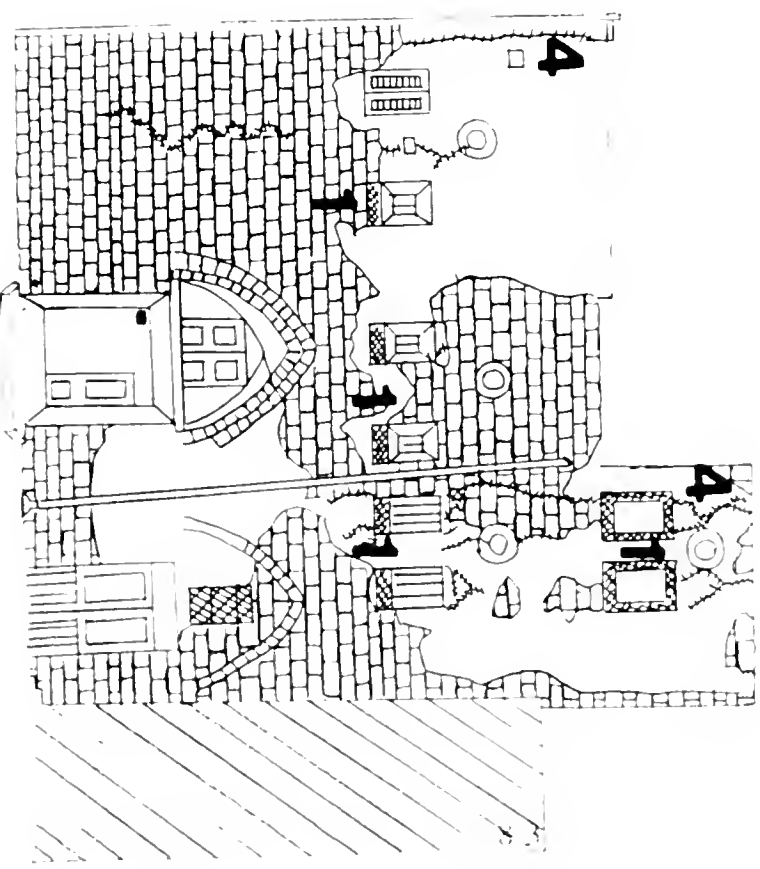
- 6-Document decorative scoring on plaster and repair
- 7-Remove concrete roof and replace with lighter construction
- 8-Repair structural damage caused by concrete roof
- 9-Install new zinc gutters
- 10-Install non-exterior pipe and electrical system



- 1-Open concrete filled windows
aluminum windows and doors with historically accurate
wood details
- 3-Do extensive structural survey of the south facade
(see previous drawing) Structural cracks on east facade
indicate the south facade to be pulling away from the substrate
- Vegetation on the south facade indicates substantial water
infiltration Evidence of pigeons roosting within building
Extensive debris

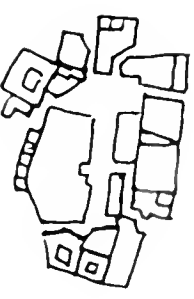
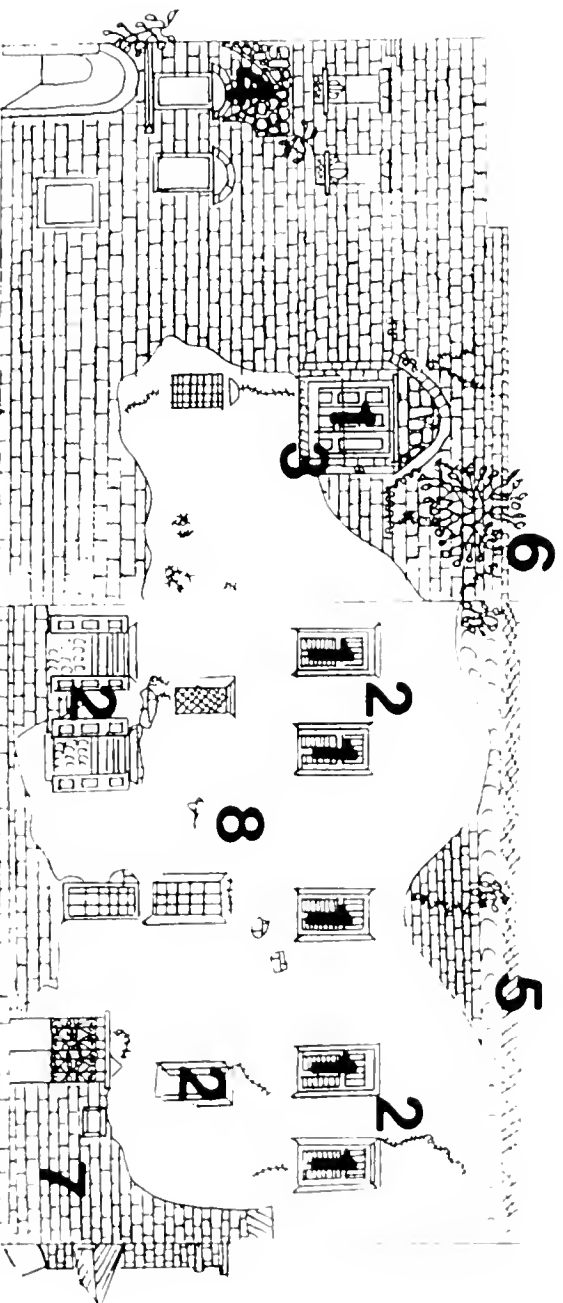


- 4-Additional structural survey to check cracks from roof recommende
- 5-if salvageable, the building should be replastered with a lime plaste
- 6-Use a stronger plaster at basement level
- 7-Install new zinc gutters



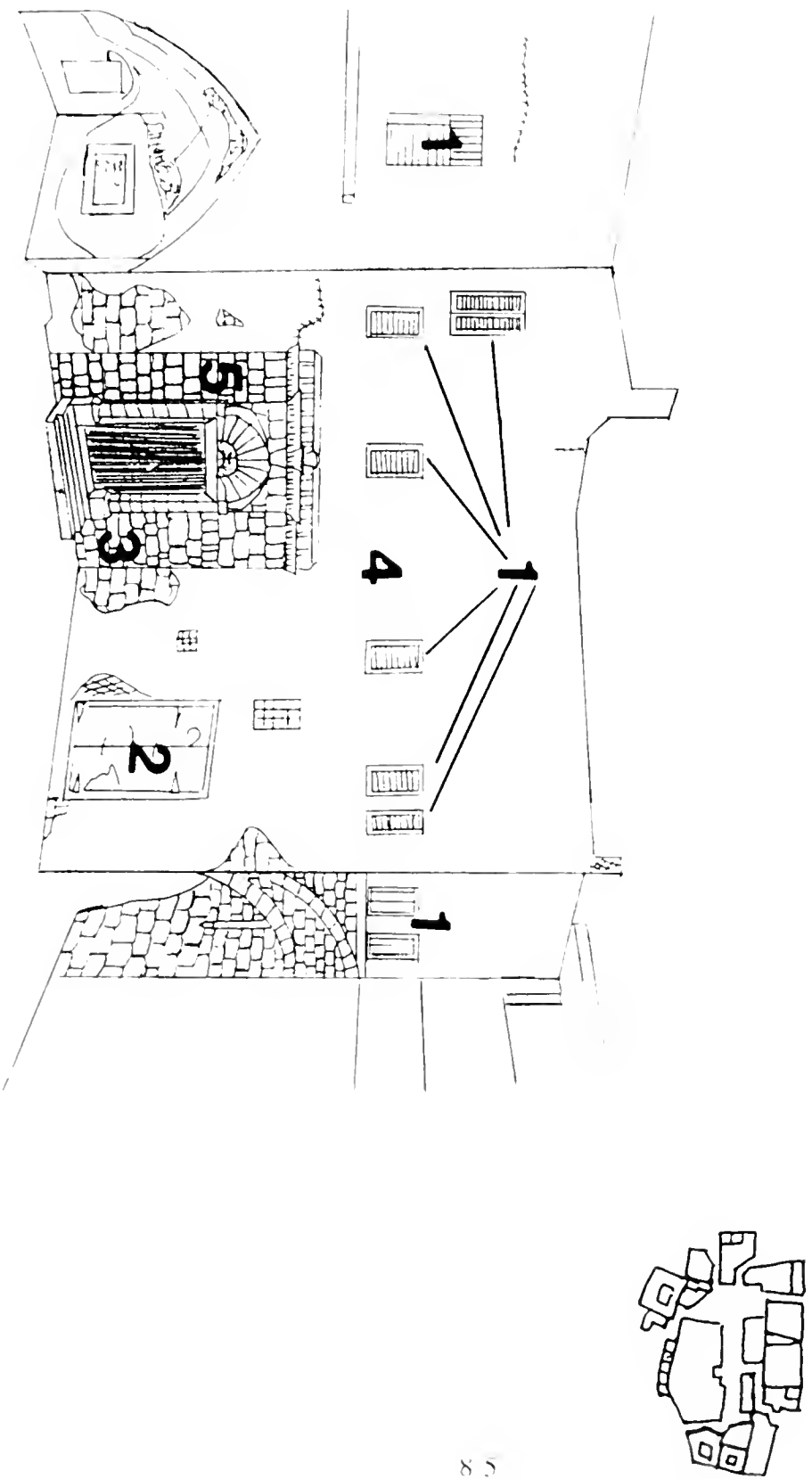
- 1-Replace aluminum windows with historically accurate wood windows and shutters
- 2-Repair existing wood window frames
- 3-Remove balustrade
- 4-Replace decorative stone arches
- 5-Remove concrete roof and replace with lighter construction
- 6-Take note of vegetation and repair cracks in roof and wall

- 7-Remove concrete pointing and replace with lime pointing
- 8-Take samples of lime plaster and analyze for use throughout square
- 9-Replaster with lime plaster based on testing
- 10-use stronger plaster for basement level
- 11-install new zinc gutters
- 12-install new non-exterior pipe and electric systems



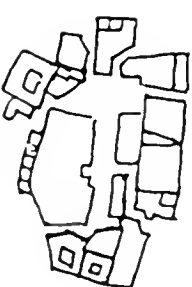
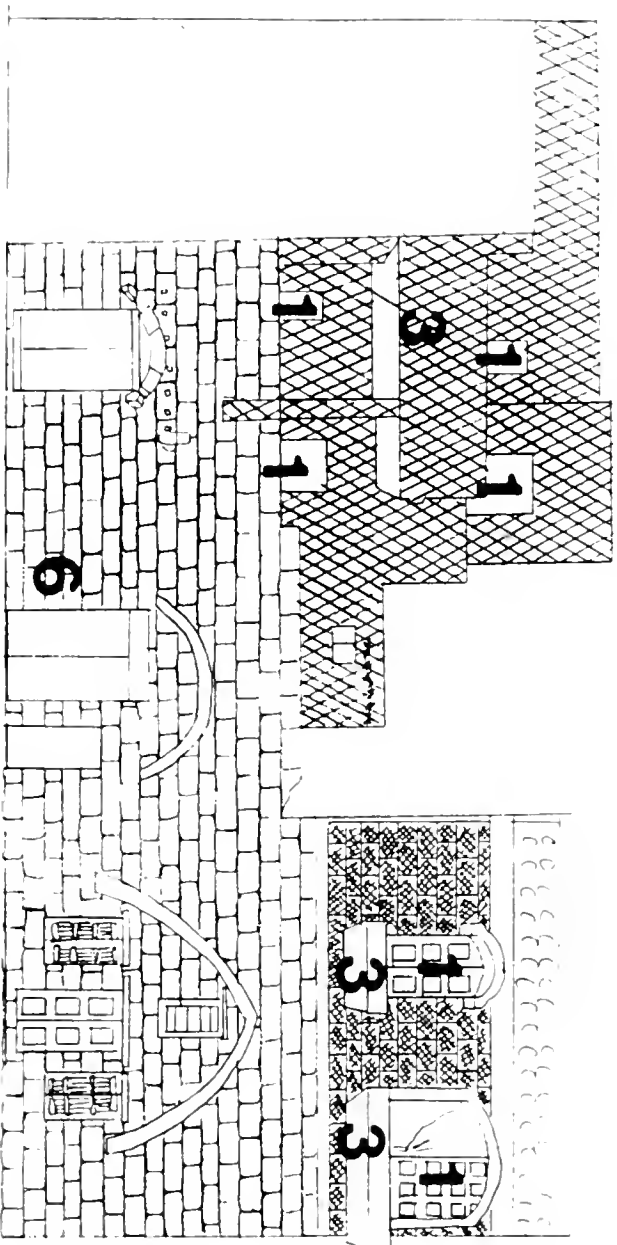
- 1-Replace aluminum windows with historically accurate wood windows and shutters.
- 2-Remove metal on wood door, examine for original material
- 3-Replace lost stone around entrance
- 4-Remove cement plaster and replaster with lime plaster

- 5-Remove cement pointing and replace with lime pointing
- 6-Use stronger plaster for basement level
- 7-Install new zinc gutters
- 8-Install new non-exterior pipe and electrical system



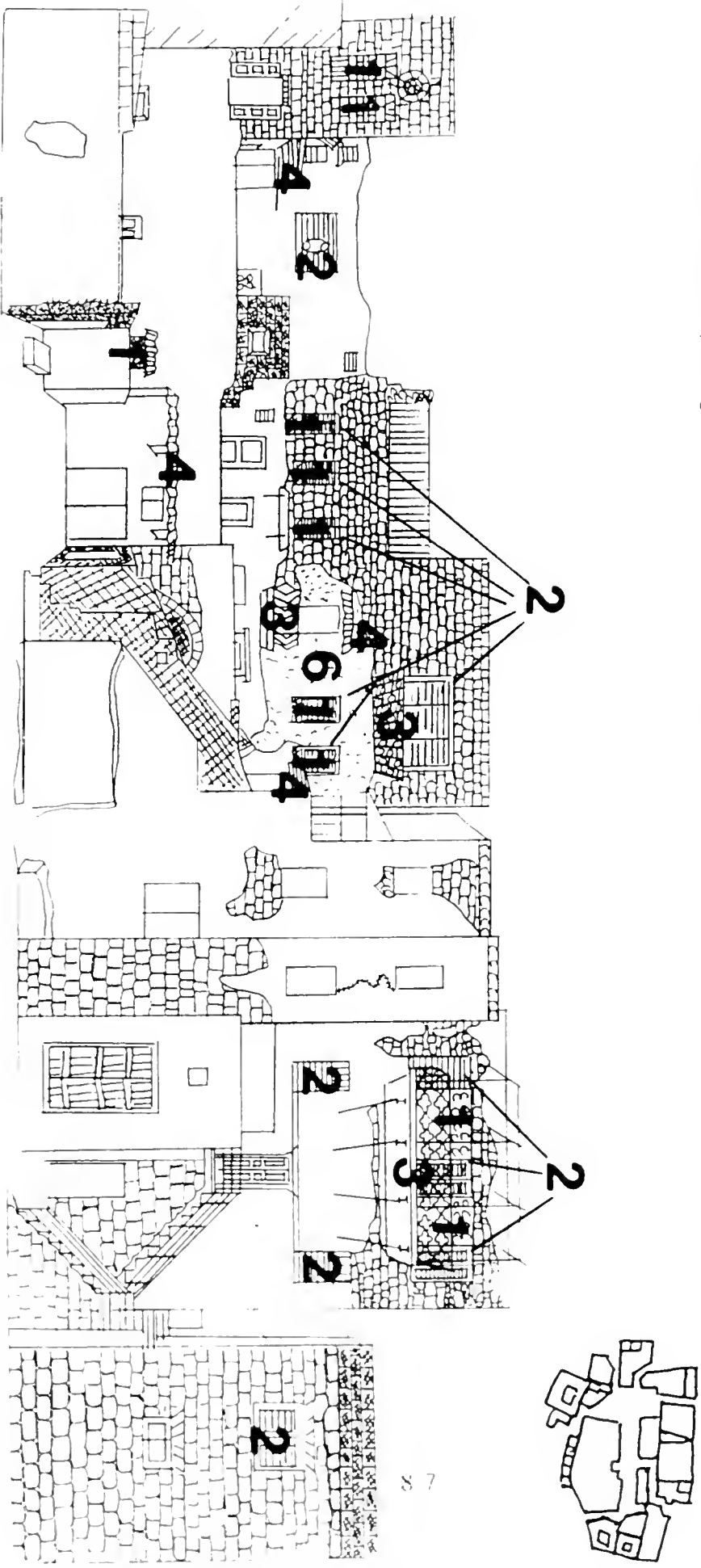
- 1-Install historically accurate wood windows on above floors
which resemble extant wood windows on ground floor
- 2-Replaster to unify facade
- 3-Remove concrete balconies

- 4-Install new zinc gutters
- 5-Install non-exterior pipe and electrical system
- 6-Remove cement pointing and replace with lime pointing



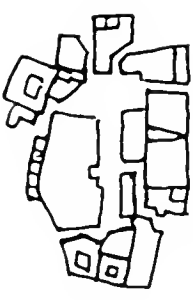
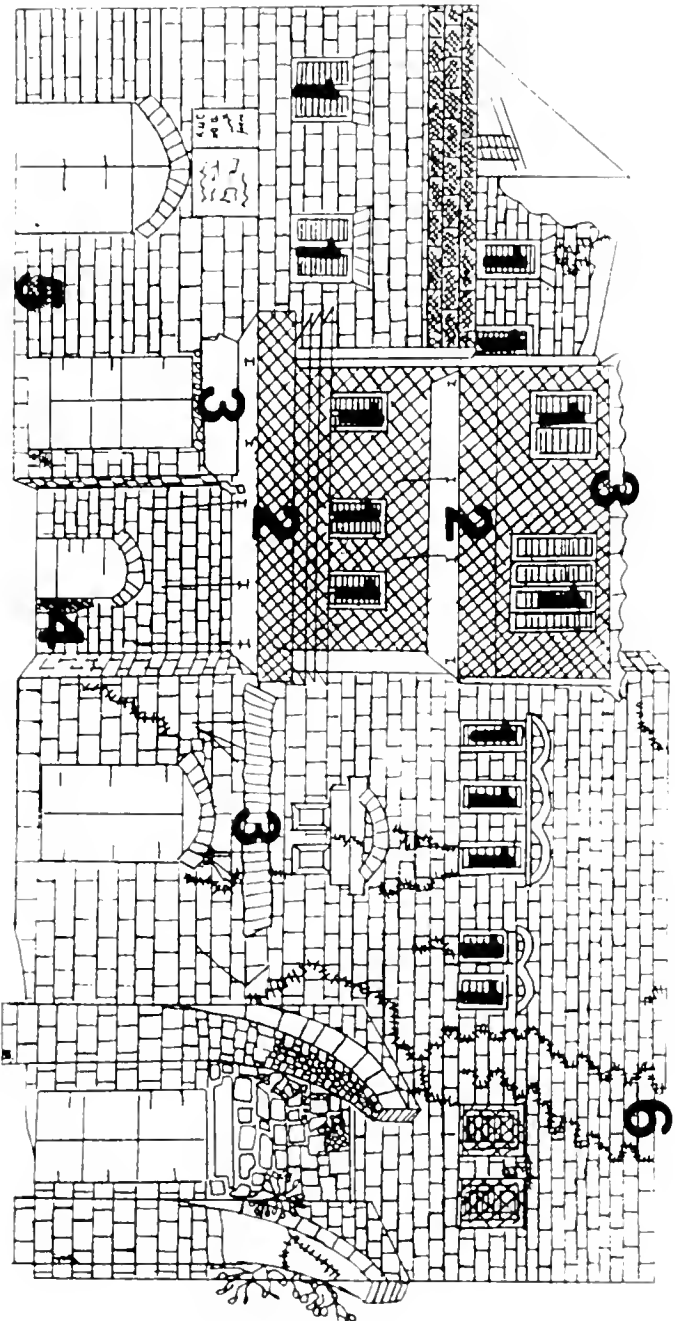
- 1-Open filled windows
- 2-Replace aluminum windows and doors with historically accurate wood carved details based on extant examples
- 3-Remove existing balcony systems(roof and balustrade) and replace as above
- 4-Remove metal roof
- 5-Remove cement pointing and replace with lime pointing

- 6-Test lime plaster for original constituents
- 7-Replaster with lime plaster based on test results
- 8-Use stronger plaster for basement level
- 9-Install new zinc gutters
- 10-Install new non-exterior pipe and electrical system



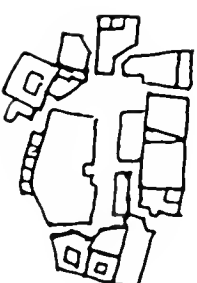
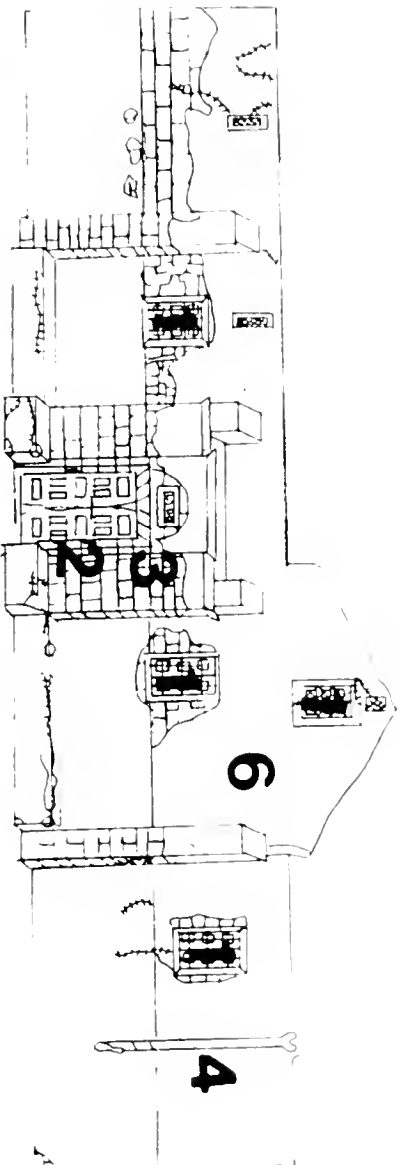
- 1-Replace aluminum windows with historically accurate wood windows and shutters
- 2-Remove terrace
- 3-Remove metal roofs
- 4-Replace lost stone around doors
- 5-Remove cement pointing and replace with lime pointing

- 6-Examine roof-line for structural damage especially where arches attach to building--cracks and vegetation indicate problems
- 7-Replaster with lime plaster to unify facade
- 8-Use stronger plaster for basement level
- 9-Install new zinc gutters
- 10-Install new non-exterior pipe and electrical systems



- 1-Remove grill from windows
- 2-Replace lost stones around entrance
- 3-Remove metal angles; replace with non-corrosive material
- 4-Preserve ceramic gutters for visible not practical use
- 5-Install working gutter system (zinc)

- 6-Test lime plaster for constituents
- 7-Replaster using test results
- 8-use a stronger plaster for basement level
- 9-Install new non-exterior pipe and electrical system



PLATES

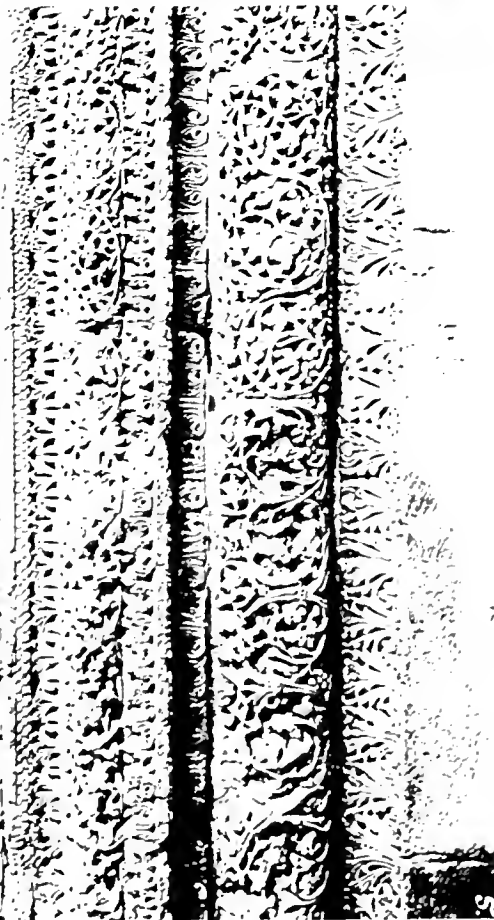
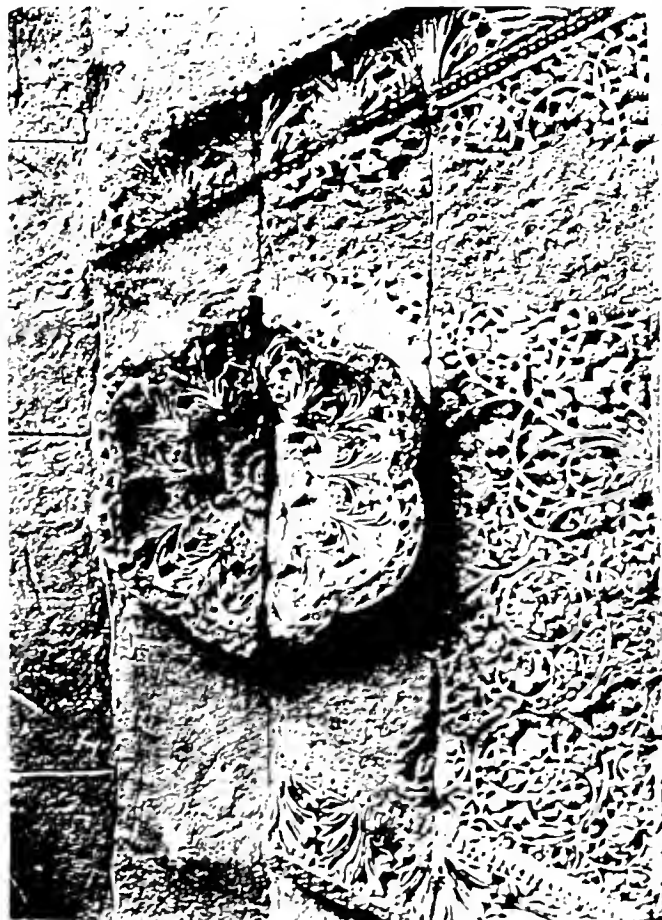
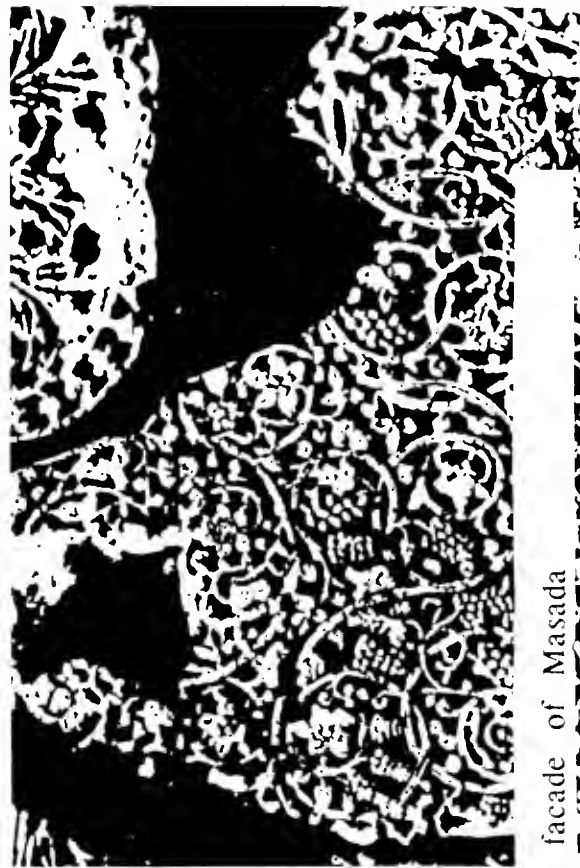
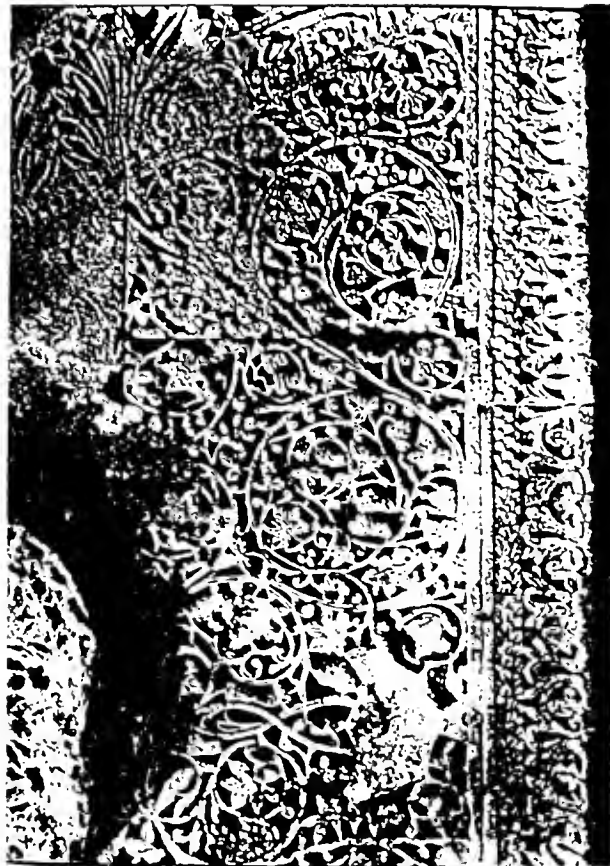


Plate 1-Detail of the carving from the facade of Masada



25. Keep of Saone from S.W.

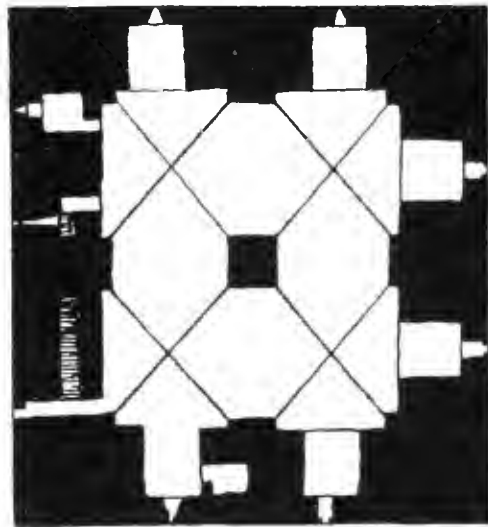
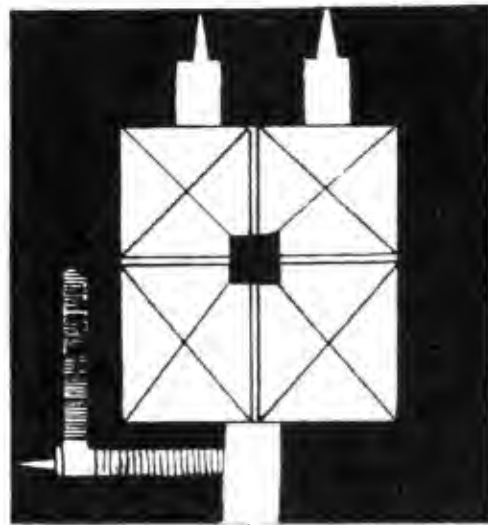


Plate 2- Drawing by T.E Lawrence of Soane castle with footprint showing vault construction and wall thickness.



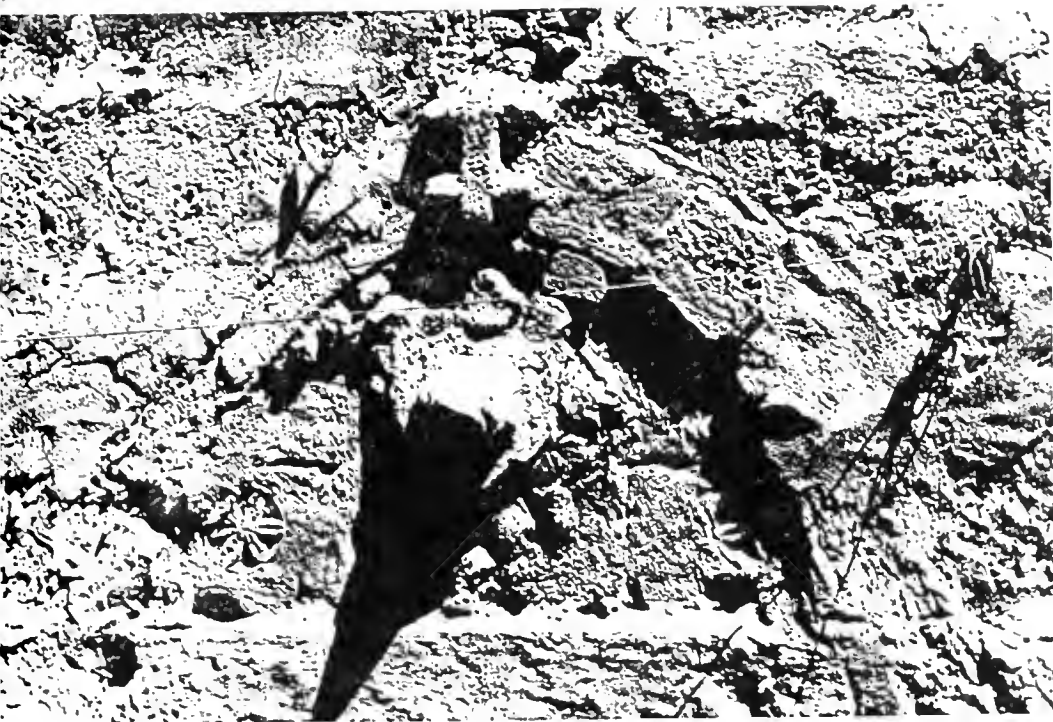
71. See also on 3rd floor.
Fragment of sea wall.
Reun. of figs. 62-7.



72. Ditto: detail of sea wall
fragment of sea wall.
In fig. 71. right.



73. Ditto: detail of sea wall
fragment of sea wall.
In fig. 71. right.
On 3rd floor. Reun. of
figs. 62-7.



Building details of houses from the Crusader period.

פרטי בניה בבתי אורחים מהתקופה הצלבנית, כפי שהם היום.

Plate 4-Crusader mason marks found on buildings in Acre



Plate 5-Example of Crusader boss and margin stone technique from Banias.



Plate 6-Example of Crusader blind arches at Crac De Chevaliers.



Plate 7-Example of blind arches in Genoa Square

Note:

*The author's plan
64 is a duplicate
of 58b and has
therefore been
omitted.*



62

Plate 8-Example of a corbelled buttress from Lawrence's text.

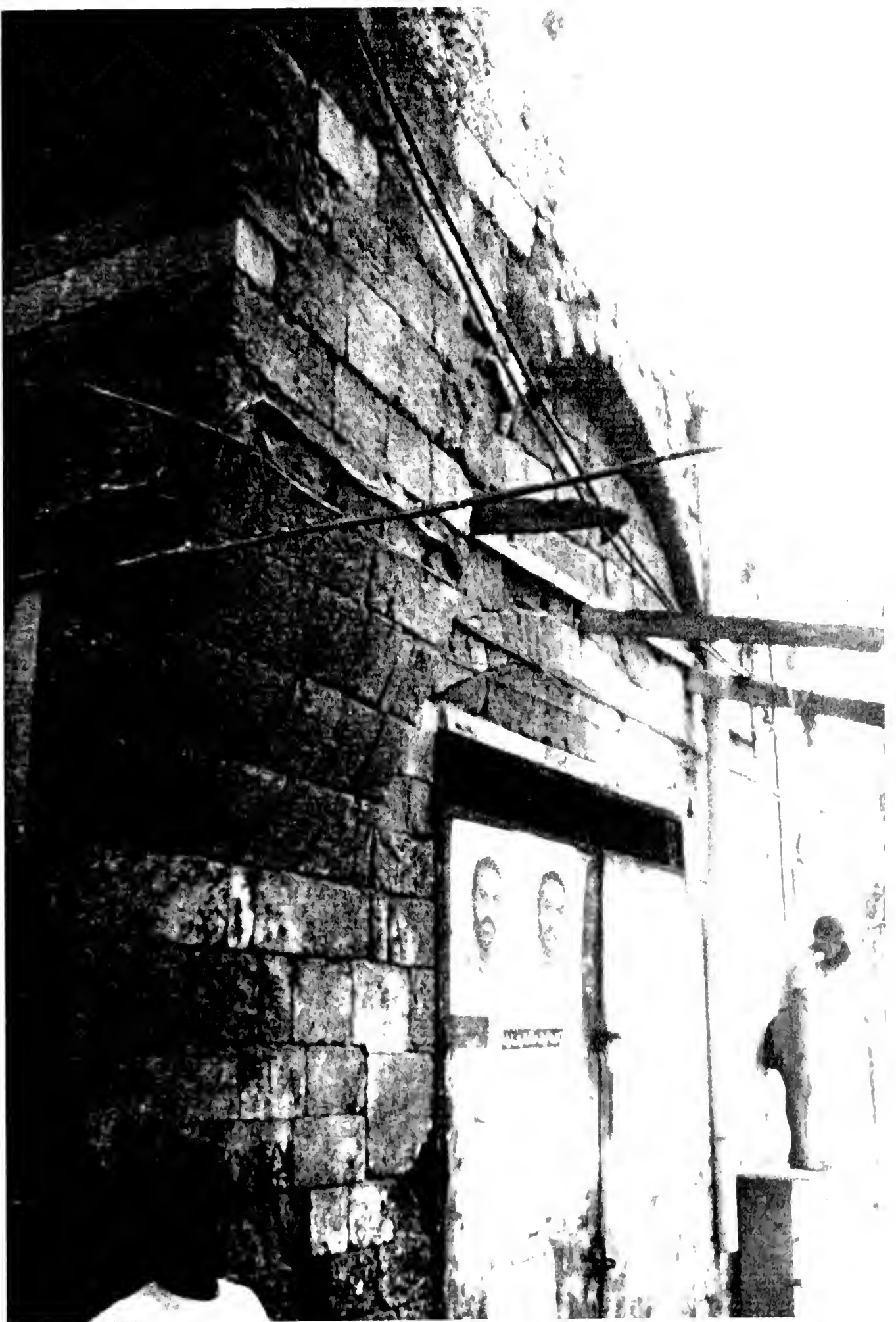


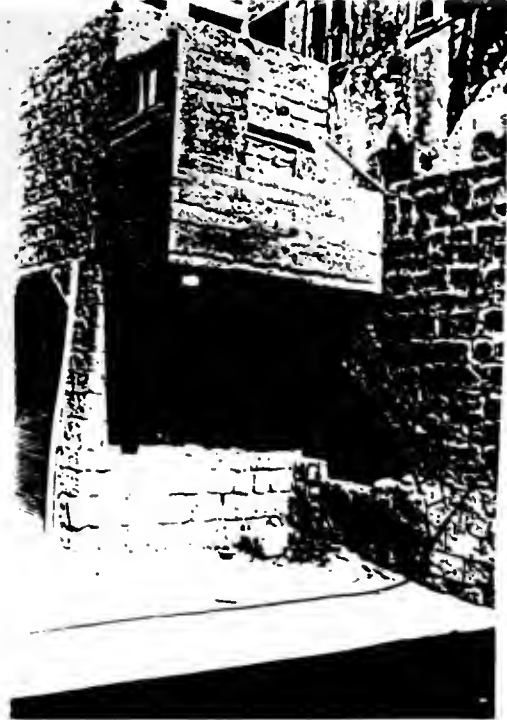
Plate 9-Example of a corbelled buttress in genoa square.



Plate 10 Example of a corbelled buttress in genoa square.



Plate 11-Example of a corbelled buttress in genoa square



37. OLD TOWN. a) Modern concrete addition.

b) Modern iron roller shutter on face of wall



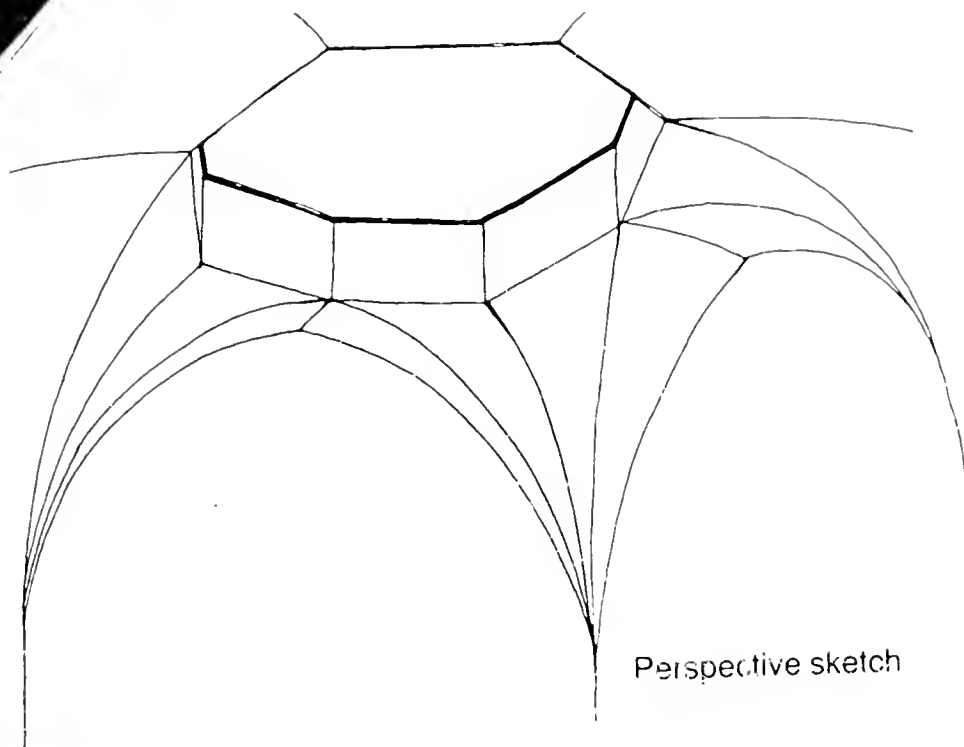
38.



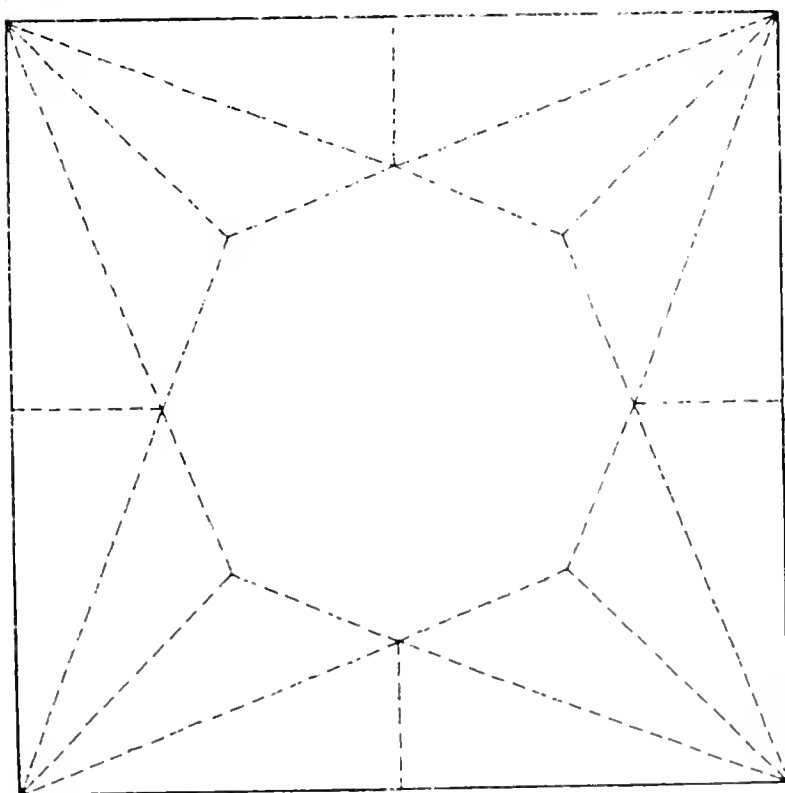
39.

38,39. OLD TOWN
Typical architecture

Plate 12-Example of crusader arch cut off at the knees.



Perspective sketch



Plan

Plate 13-Constuction plan of Mameluk vault.

Fig. 10 Mouldings



2*



32

Fig. 10a Hoodmould

Fig. 10b Border moulding

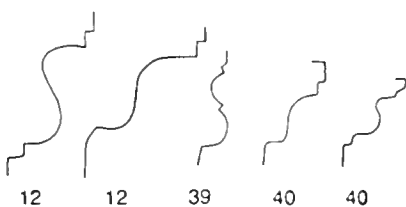
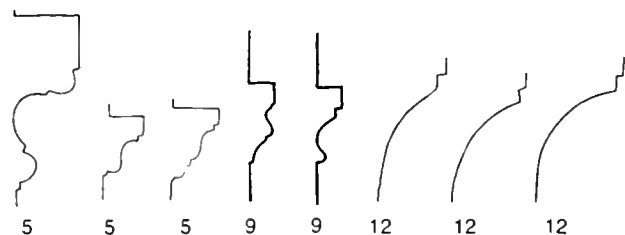


Fig. 10c Imposts

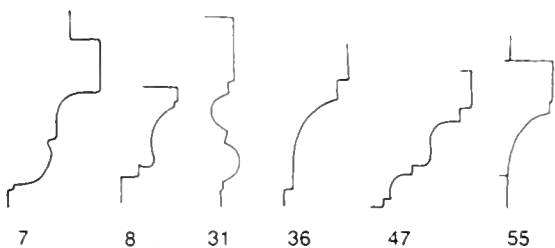


Fig. 10d Cornices

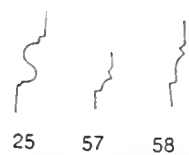
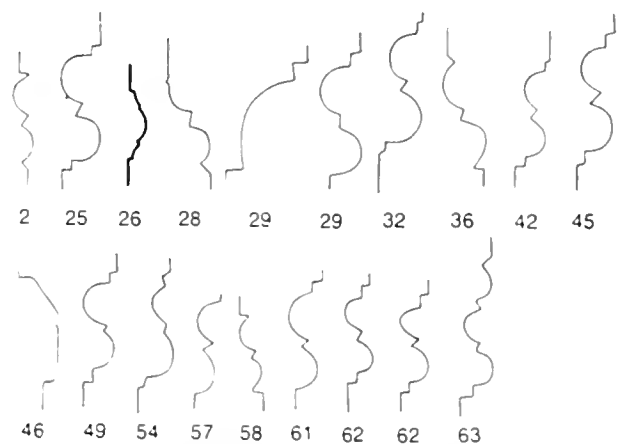


Fig. 10e Lintel frames



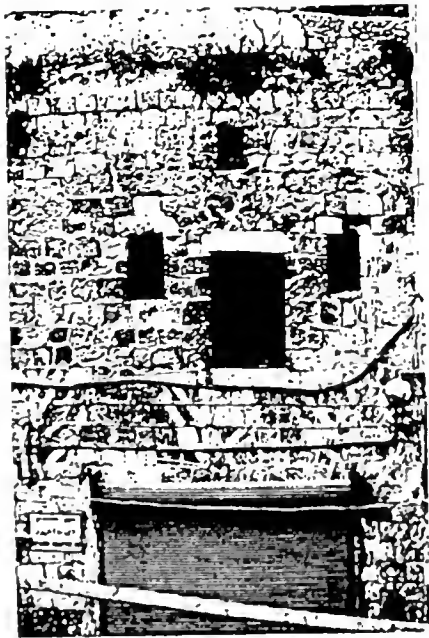


Plate 15-Mameluk windows.



Plate 16-Photo of Church doors.

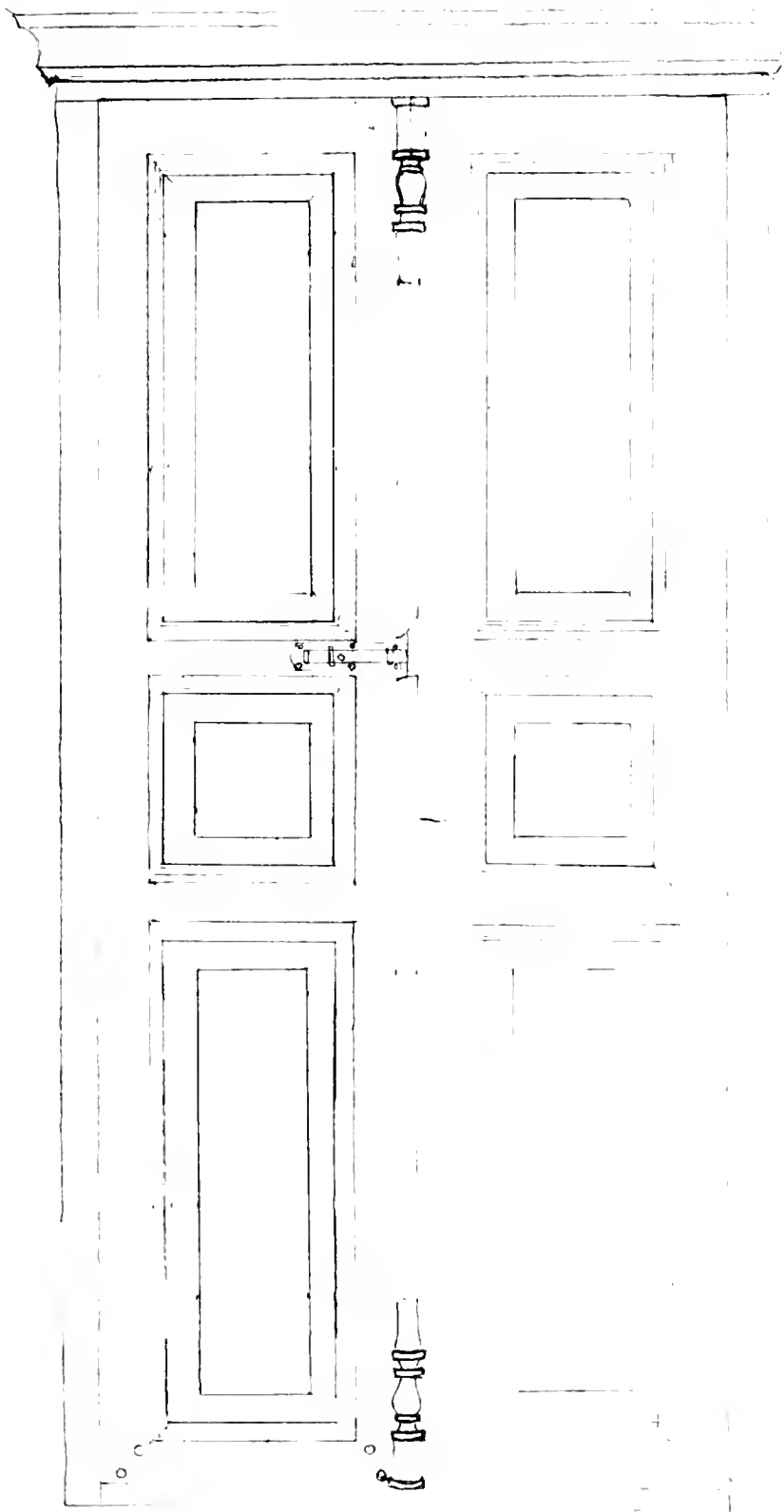


Plate 17-Drawing of similar door on another structure in Genoa Square.



Plate 18-Projecting facade of church showing small grilled windows.



Plate 19 Detail of carving from church.



Plate 20-Rubble filling of church wall.



Plate 21-ceramic gutter on church wall.



Plate 22-Tower from crusader period in Genoa Quarter.

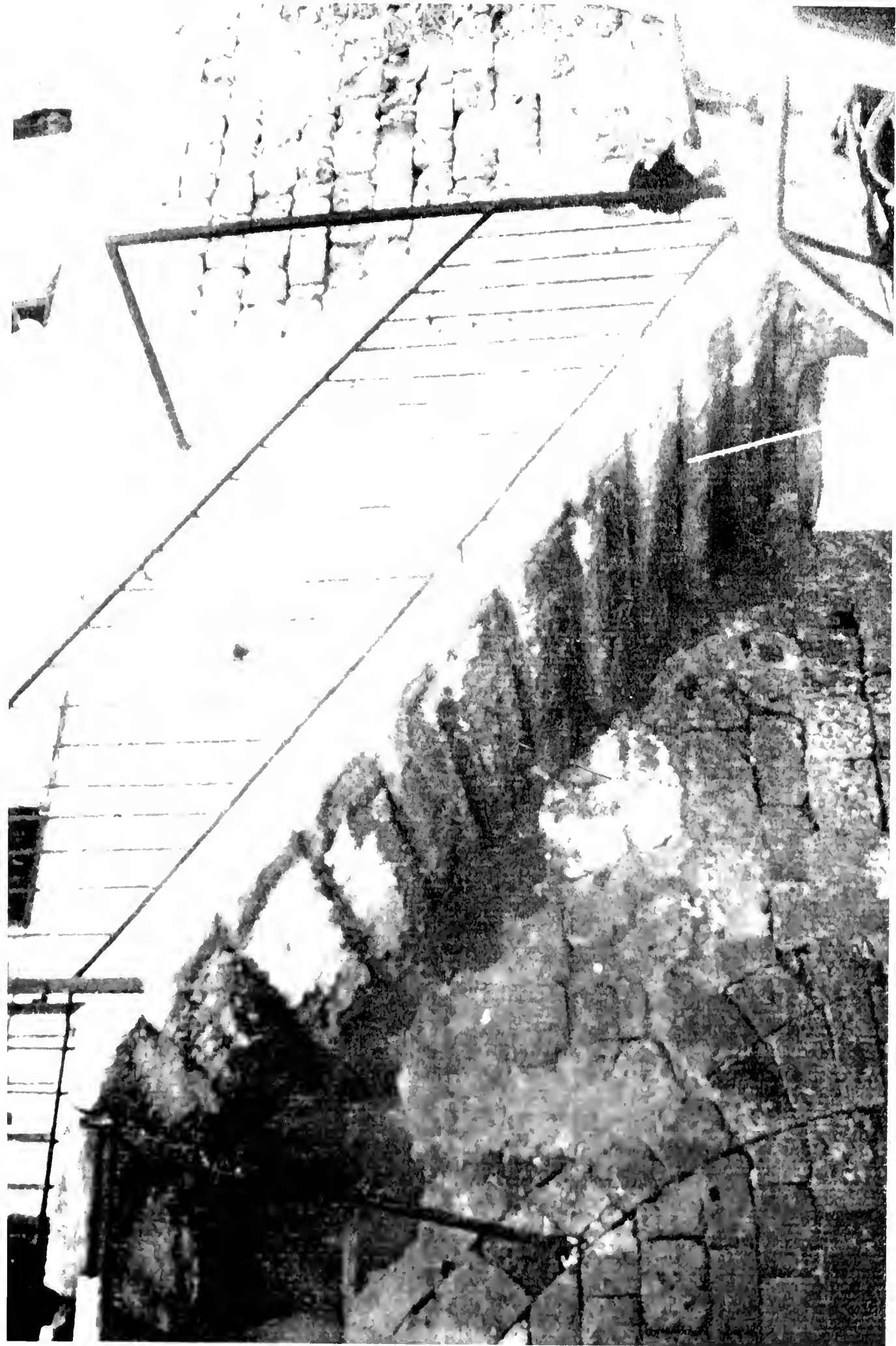


Plate 23 Arch cut off at knees in Genoa Square.

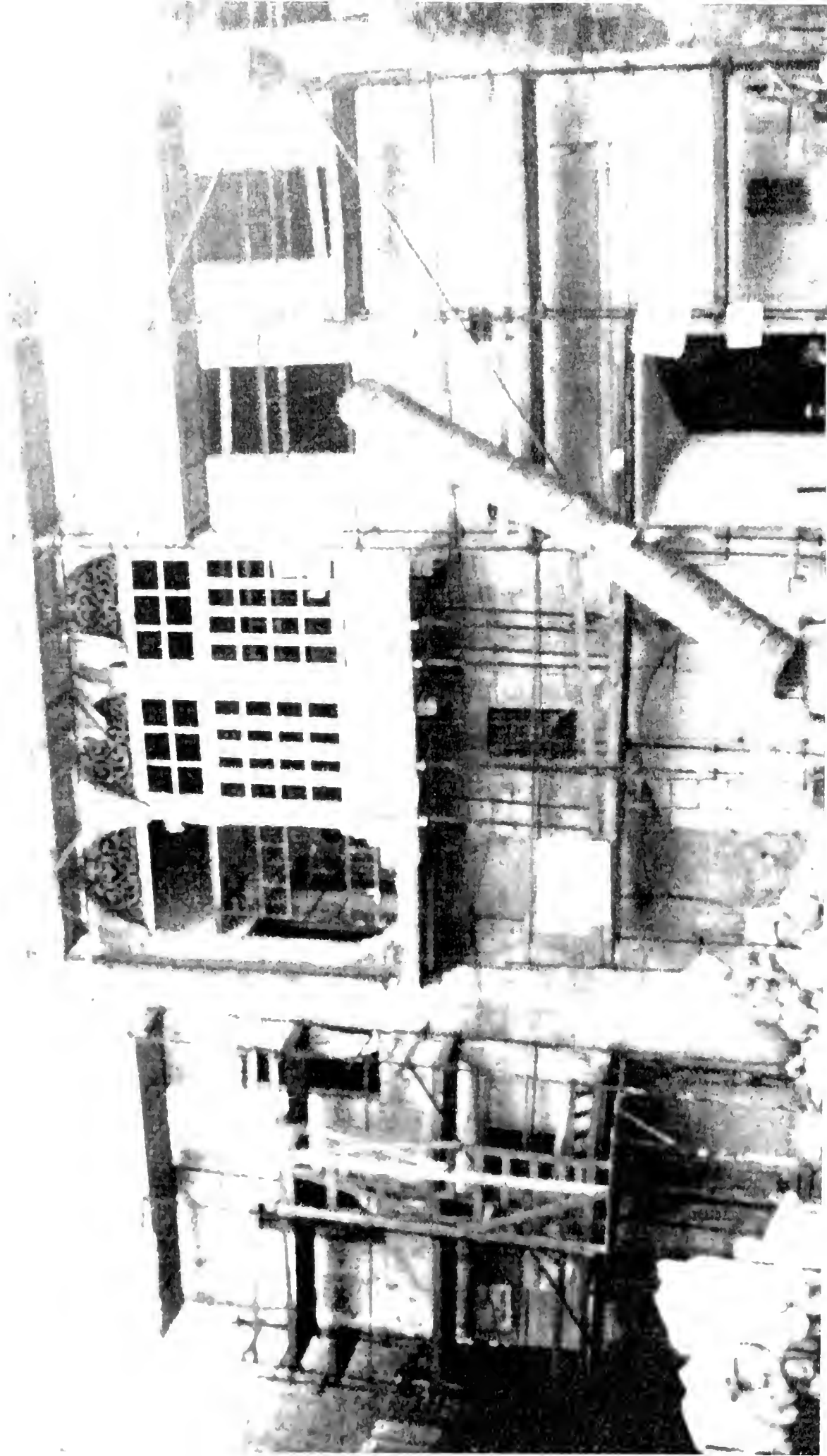


Plate 24-Turkish triple arched window in Genoa Square.

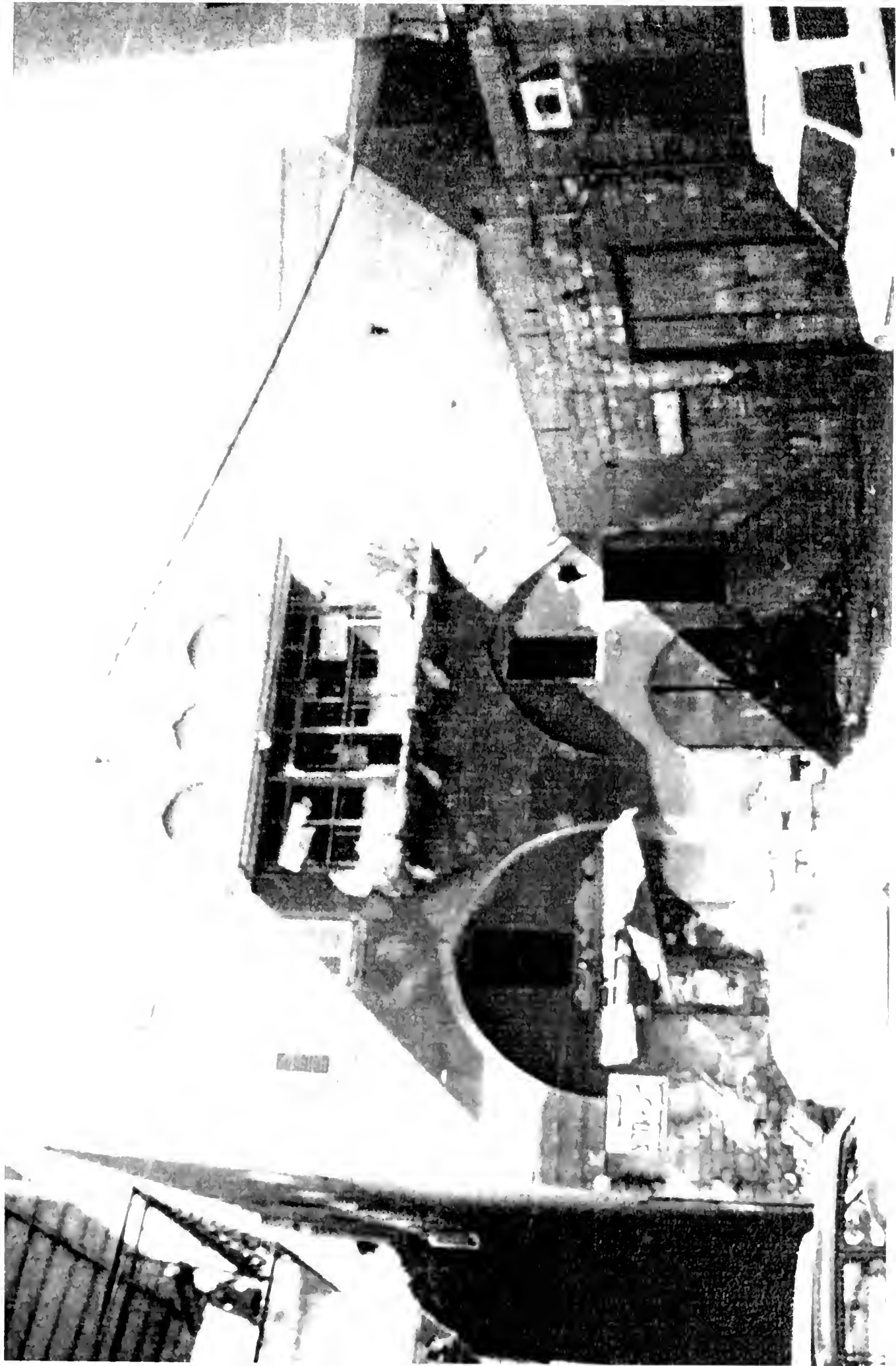


Plate 25 Turkish triple arched window in Genoa Square.

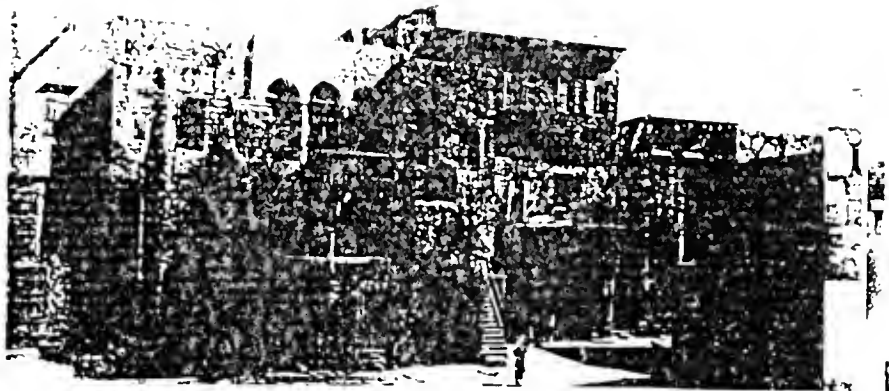


Plate 27-Turkish triple arch window elsewhere in the old city of Acre.

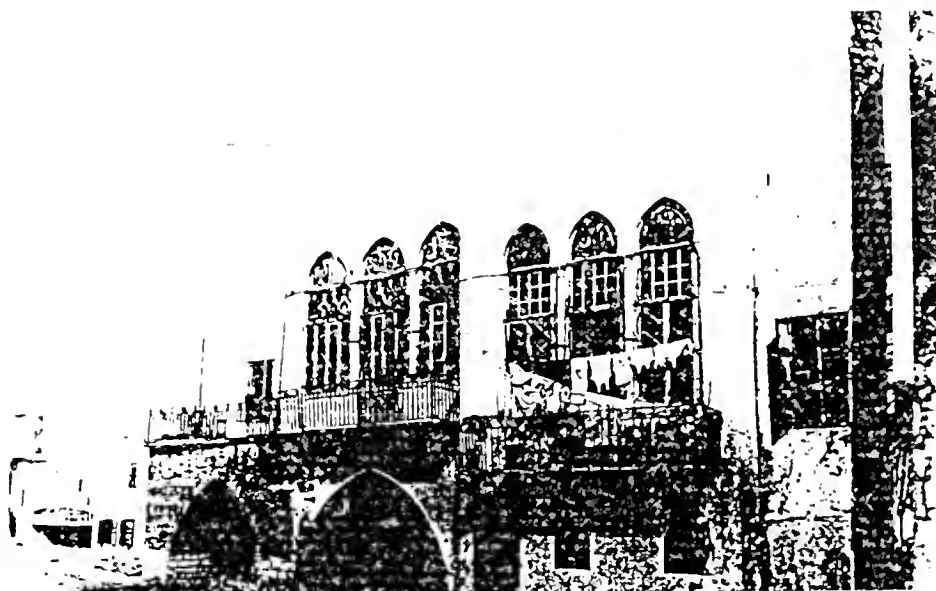


Plate 26- Turkish triple arch window elsewhere in the old city of Acre.

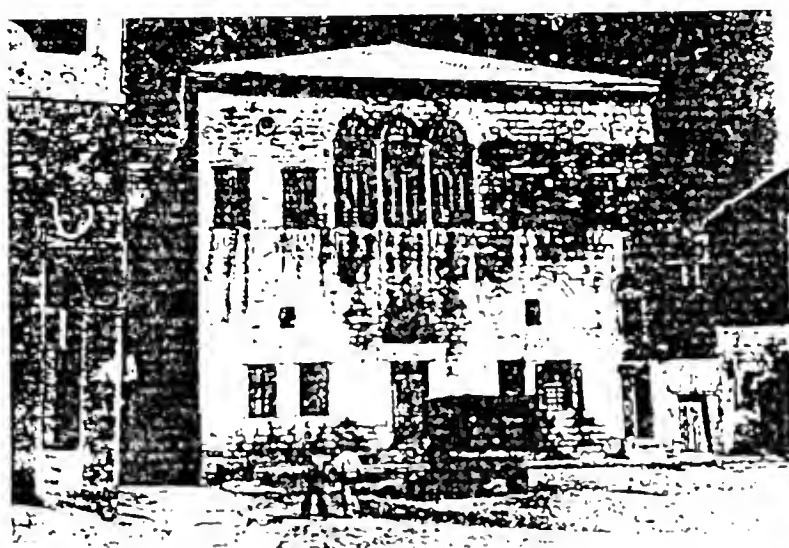


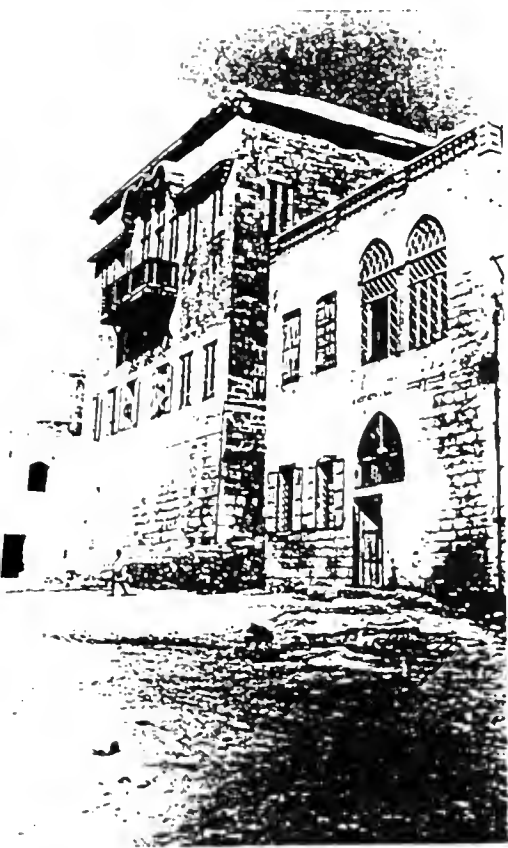
Plate 28 Turkish triple arch window elsewhere in the old city of Acre.



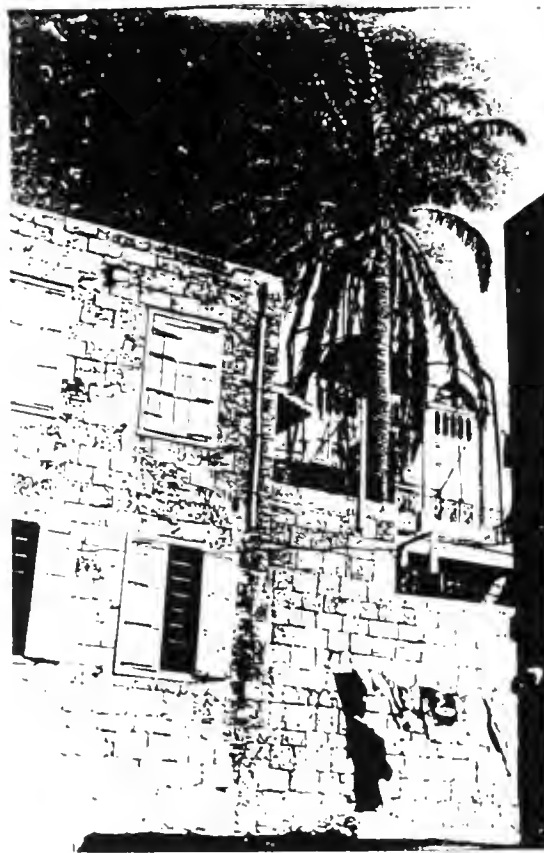
Plate 29 Detail of Turkish pillars in Genoa Square.



Plate 30-Detail of Turkish balcony Bracket.



56.



57.

55, 56, 57, 58. OLD TOWN.
Typical Architectural

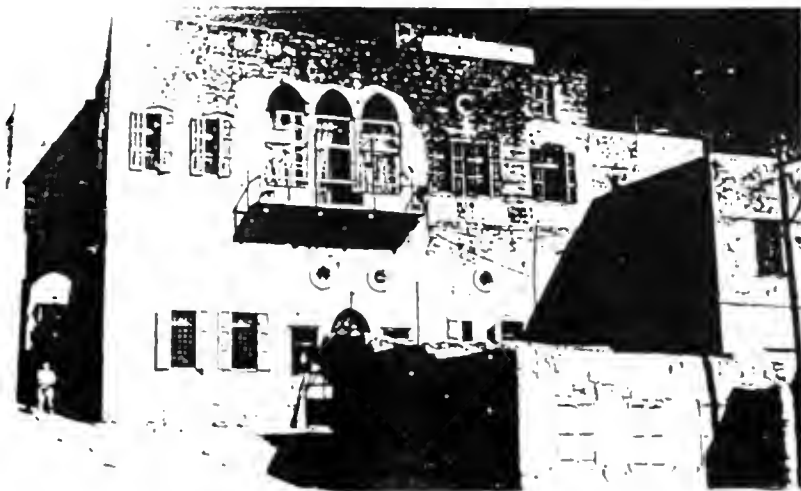


Plate 31 Detail of Turkish circular windows.

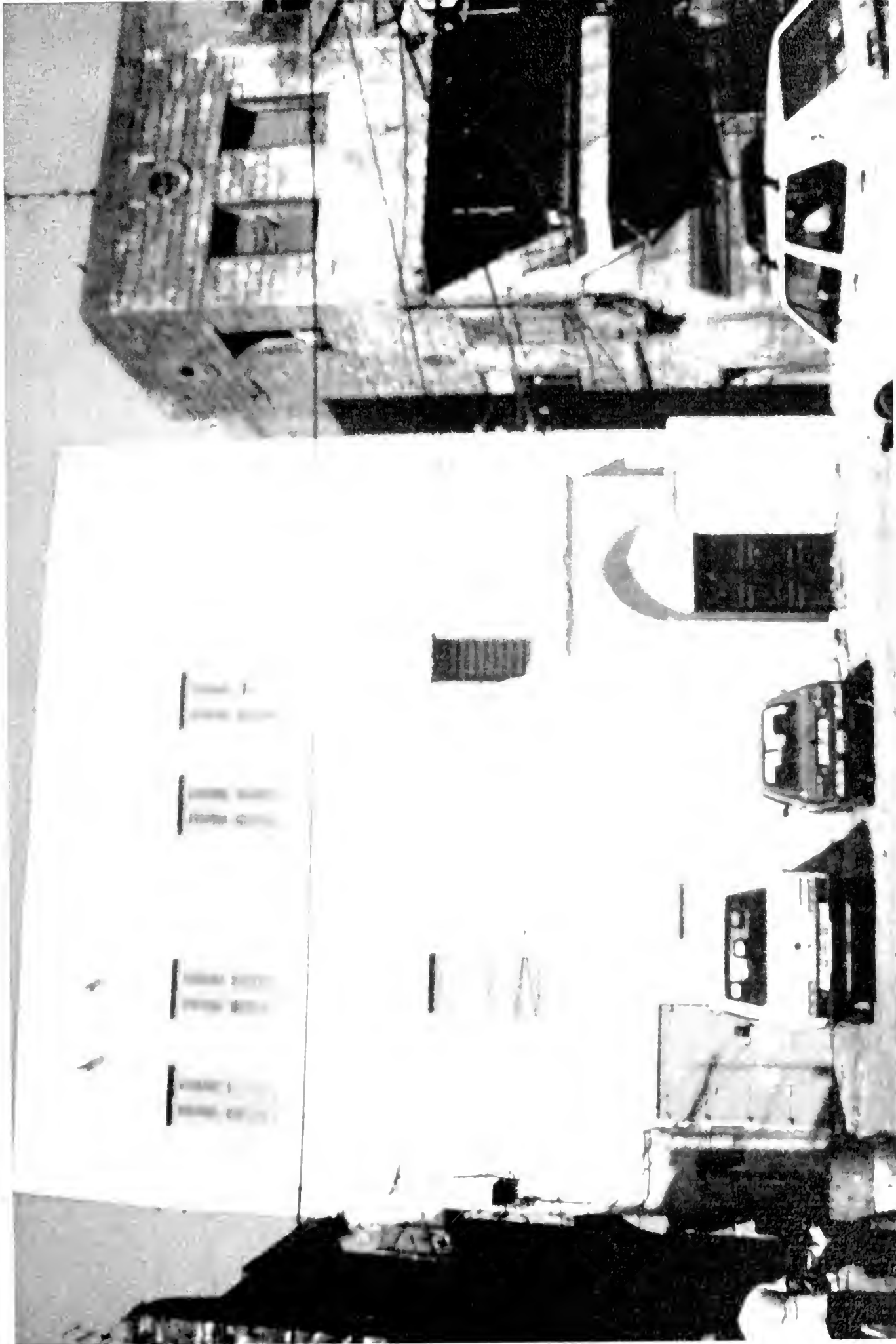


Plate 32-Bahai house on the left. Detail of Turkish circular windows on structure to the right.



Plate 33-Decorative turkish ceiling.

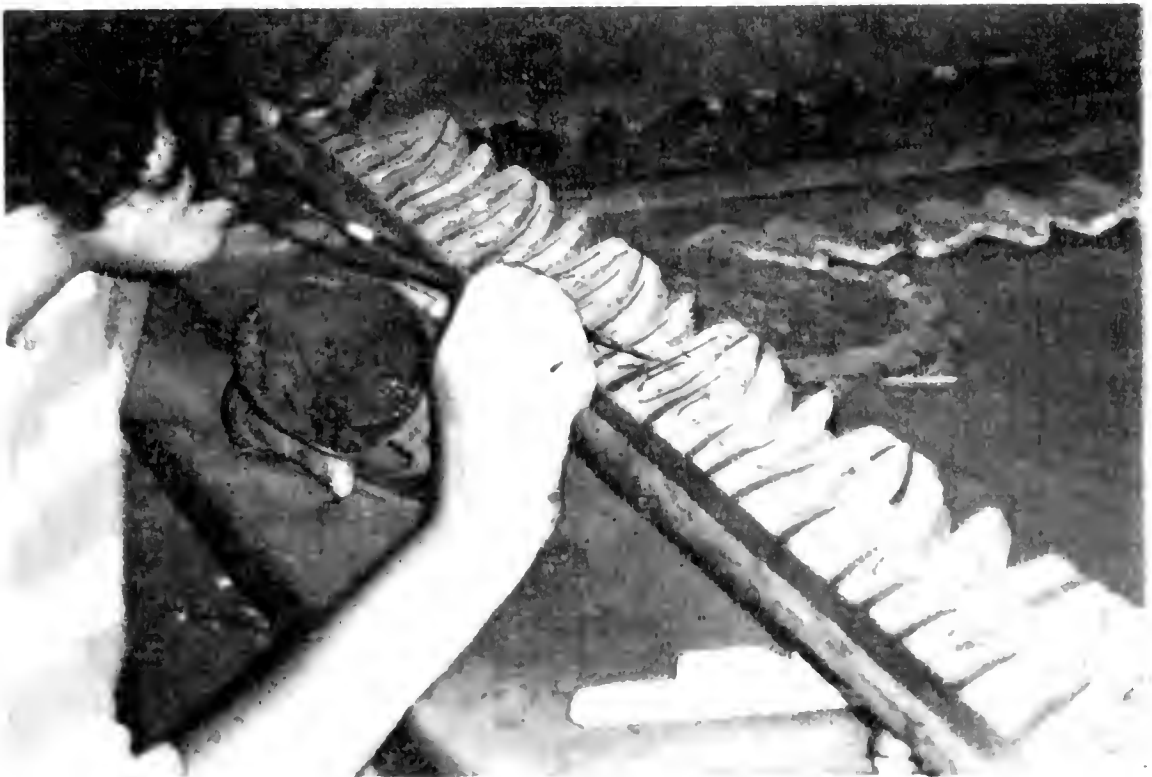


Plate 34-Decorative turkish cornice carved out of wood.



Plate 35- Decorative wooden carved window screens of the Turkish period.

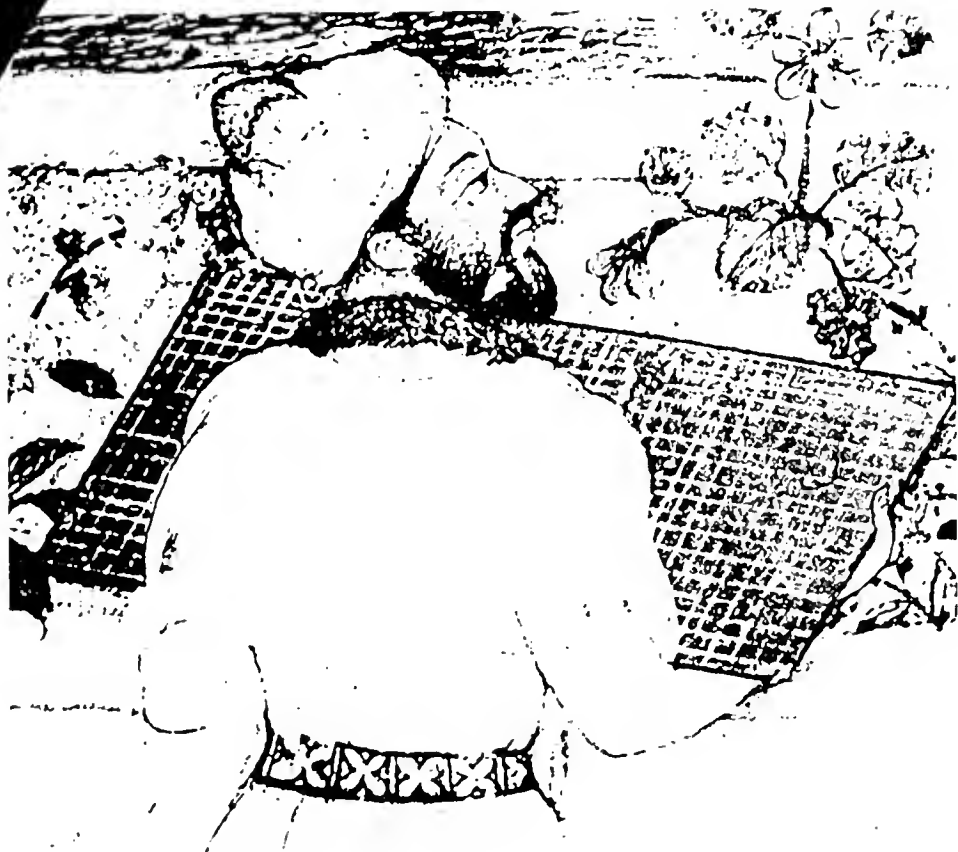


Fig. 12. Plan of a rectilinear garden laid out for Babur, detail from *Baburnāma*, c. 1580 (Victoria and Albert Museum, I.M. 1913-276 and I.M. 2913-276A).

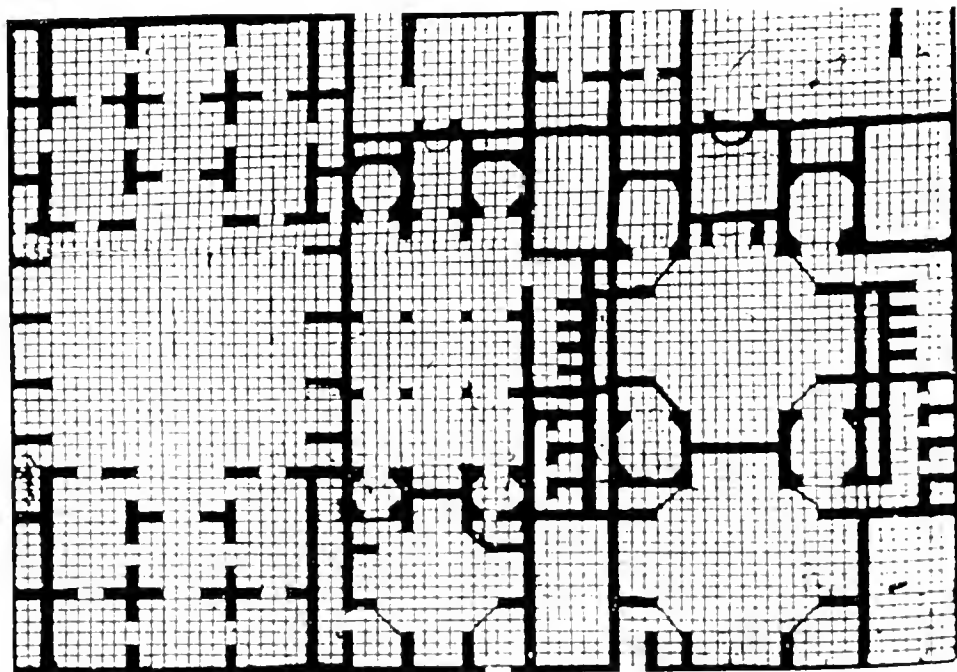


Plate 36- Turkish architectural grid plan.

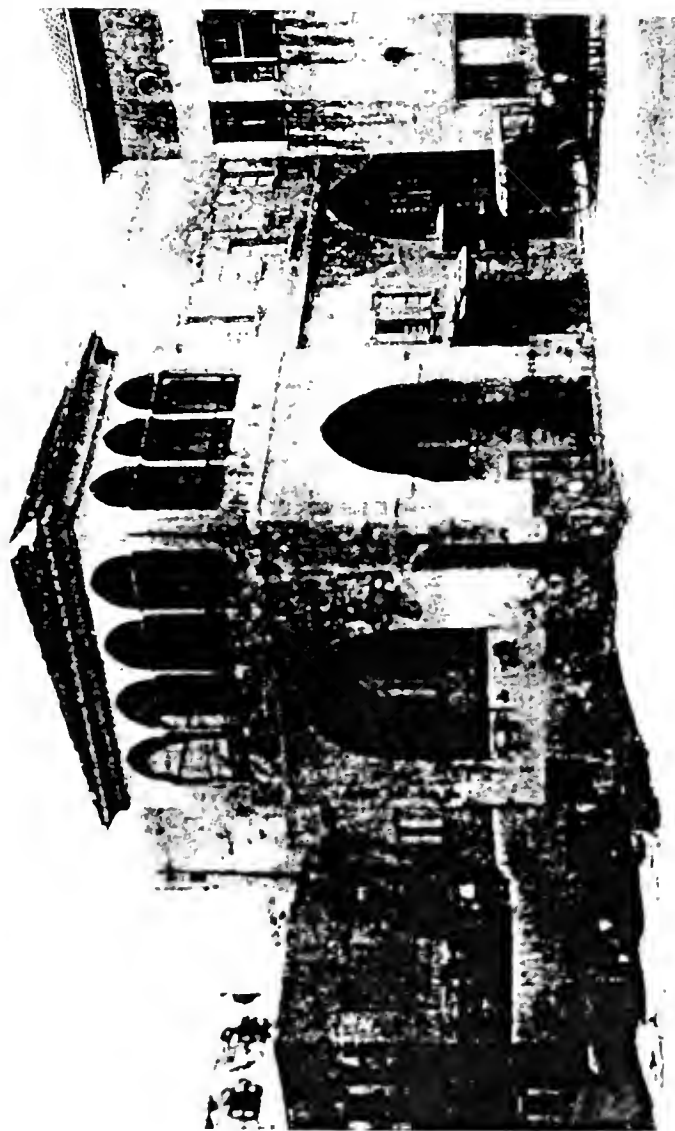
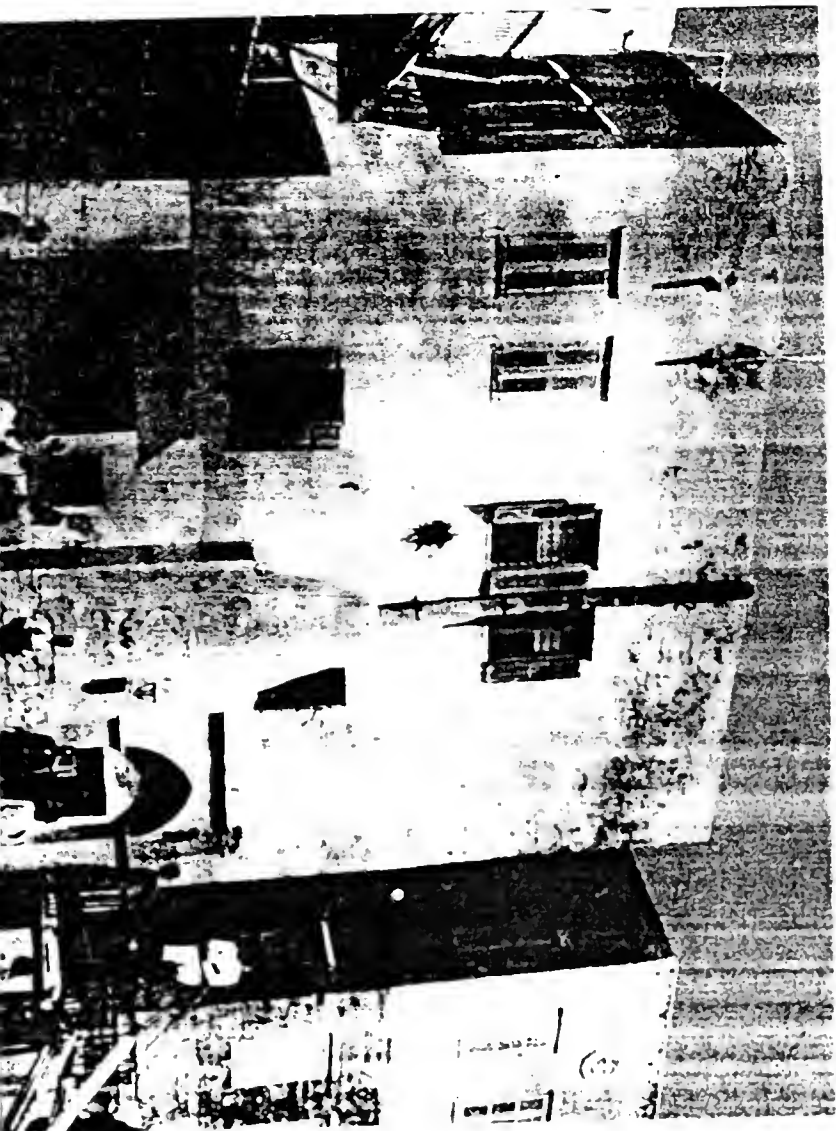


Plate 37-Back of the Bahai building

9 The House of 'Údí Khammár

Plate 38 Photograph of fountain during Bahai occupation which no longer exists today.



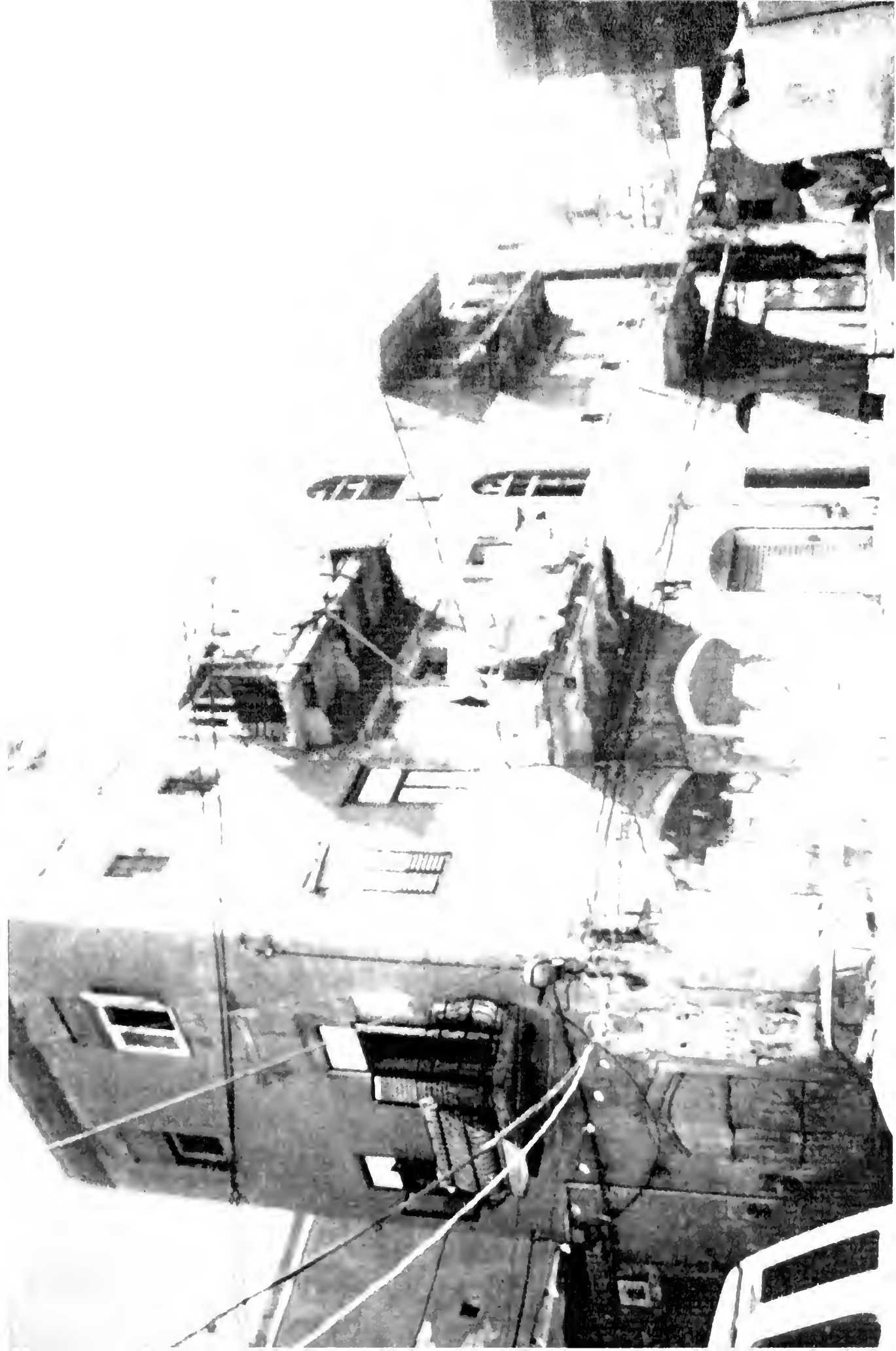


Plate 39-Facade of new structure.



Plate 40- Detail of the plaster on the new Structure.



Plate 41- Detail of clock inscribed in plaster



Plate 42-Detail of Doric columns on the new structure.



Plate 43-Example of typical cobble-stone paved streets.



Plate 44-entrance to todays square.

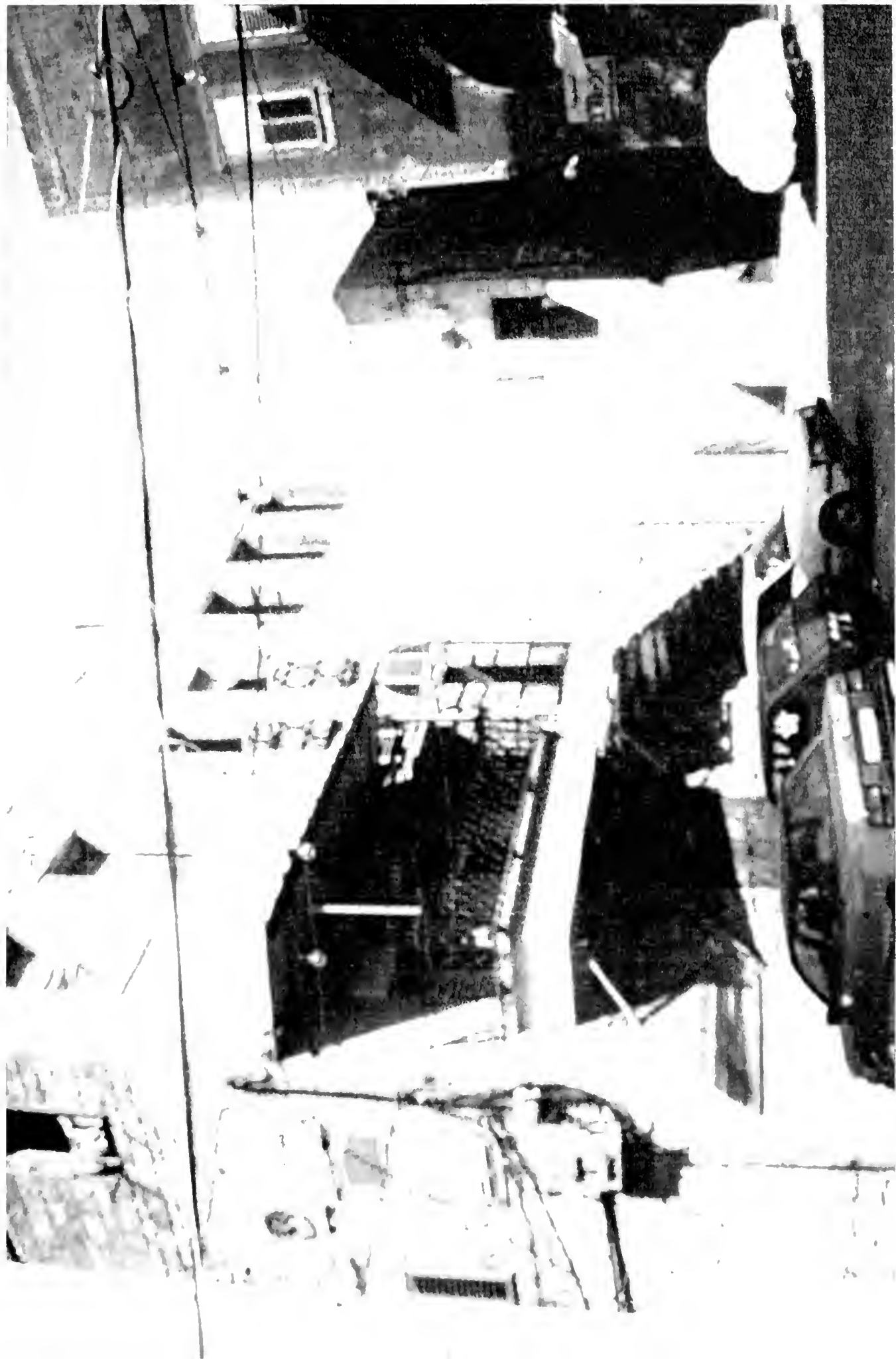


Plate 45 entrance to todays square.

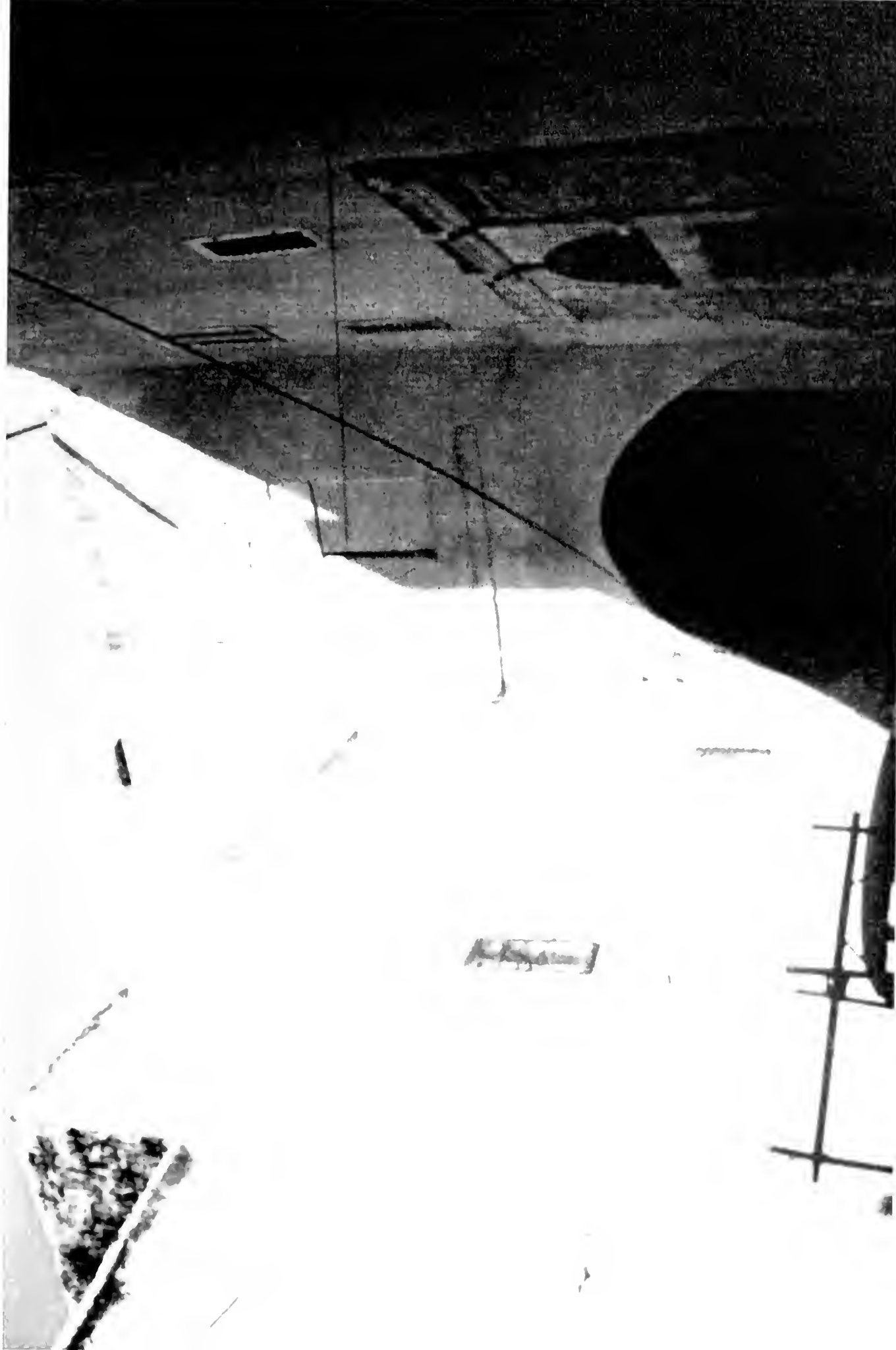


Plate 46 entrance to todays square.

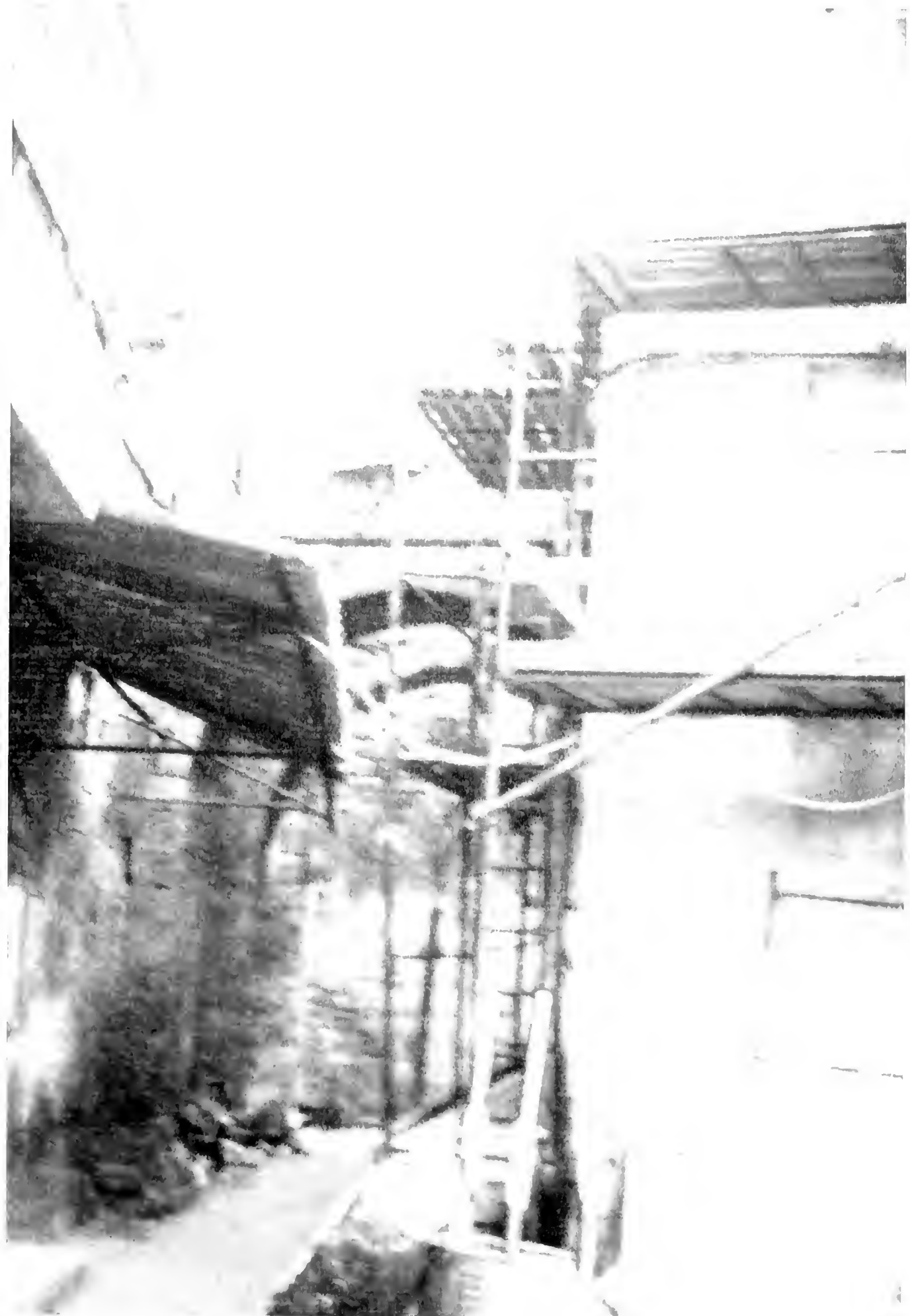


Plate 48-entrance to todays square.

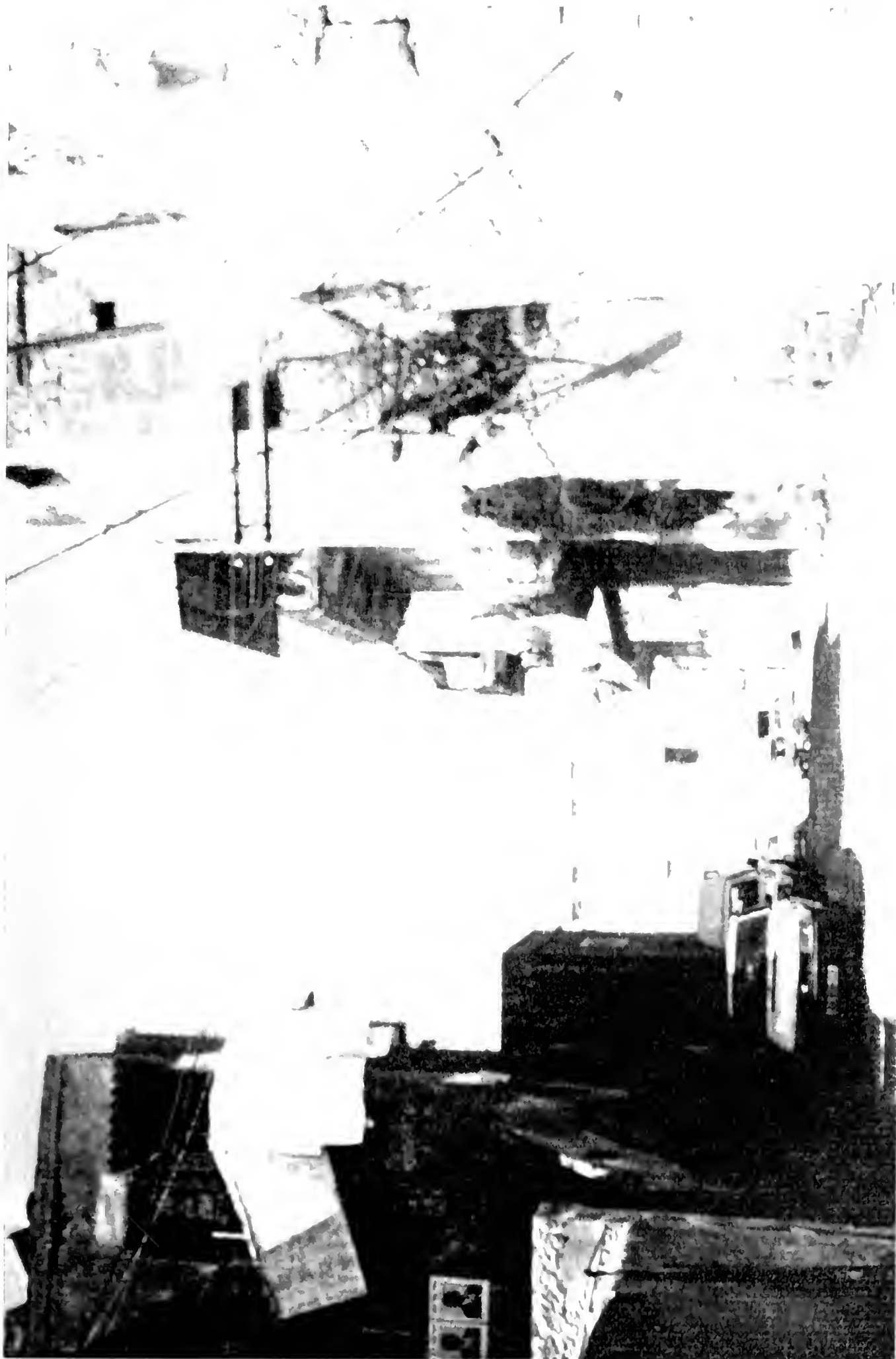


Plate 49 Modern day opening between two crusader squares.

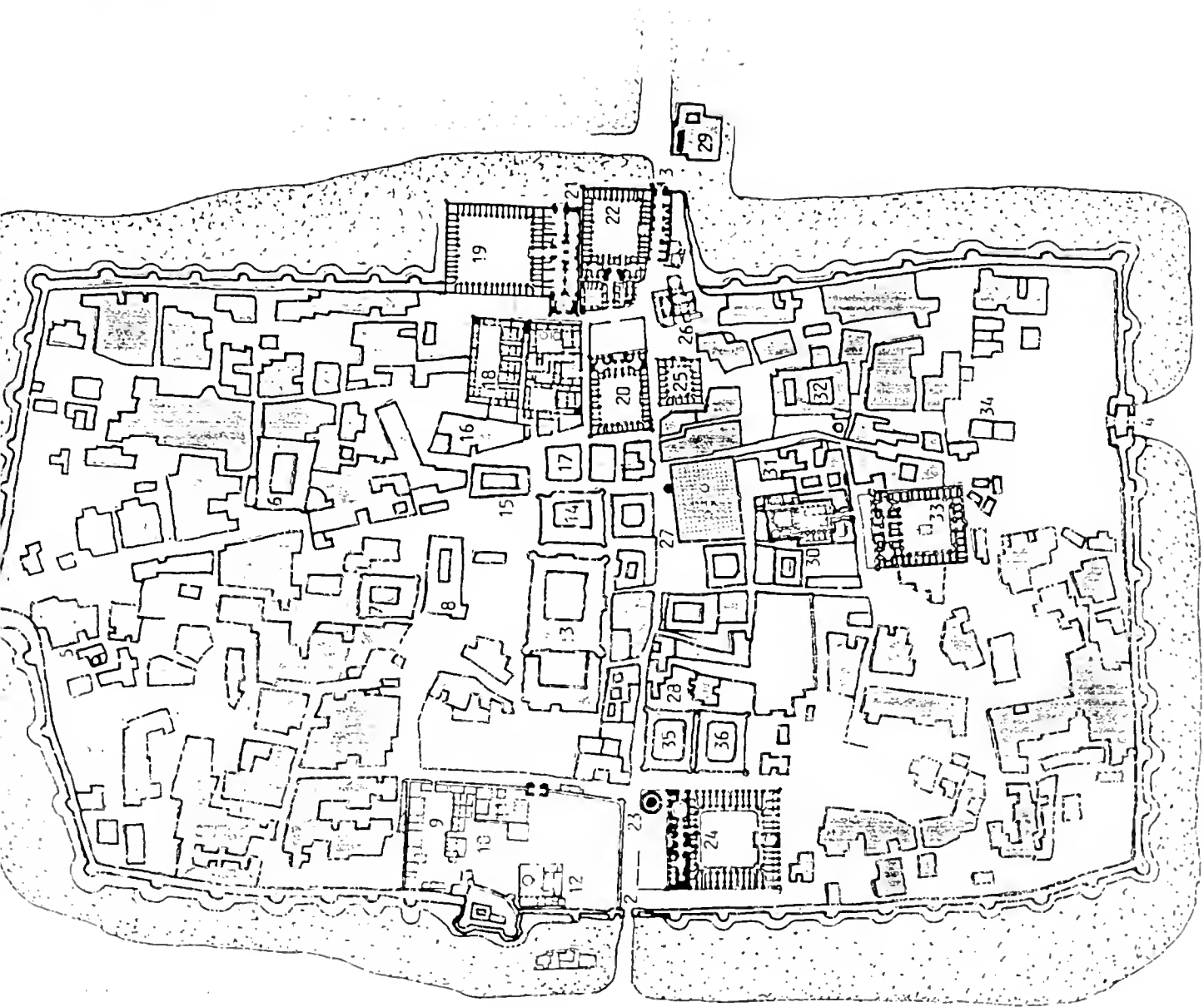


Plate 50-Cracks along roof where cement has been added.

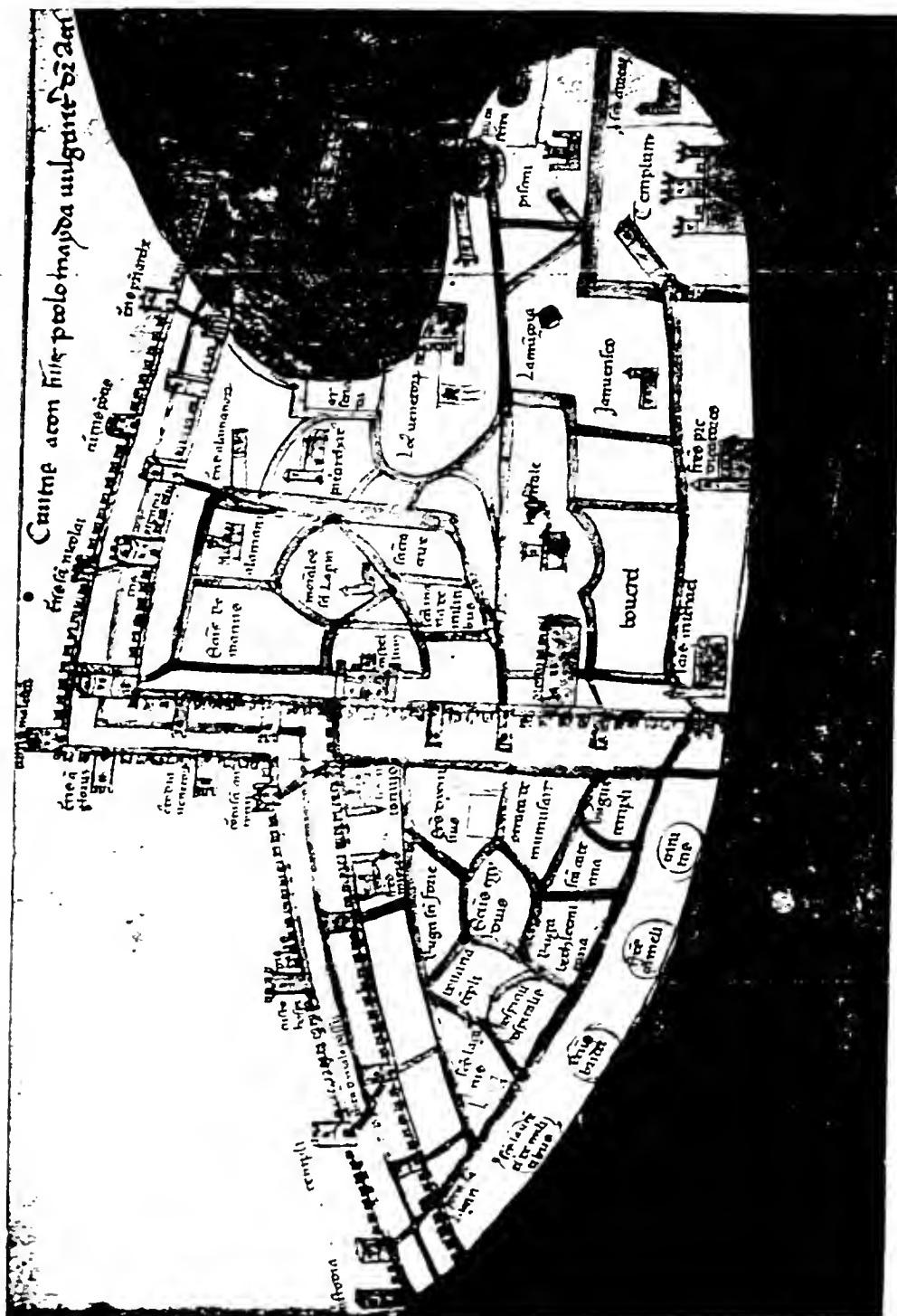


Plate 51 wires

MAPS



Map 2 - Map of Omayyad city of Khiwa



Map 3 - Sanudo map of Acre from the Crusades



Map 1 Keston's map noting the existing remains of the crusader city.

AS A RESULT OF THE DESTRUCTION ORDERED BY THE SULTAN KHALIL EL-ASHRAF, THE LEVEL OF THE PRESENT CITY OF ACRE IS AT MANY POINTS WELL ABOVE THE ORIGINAL LEVEL. SUCH TERRAINS COULD WELL INCLUDE INTERESTING REMAINS.



- O. Zone which has remained at the level of the Crusader town.
- R. Zone, 4 - 5 metres above the level of the Crusader town.
- S. Zone, 7 - 8 metres above the level of the Crusader town.

Map 5 - Kesten's map showing the altered street levels of Acre after the Turk Al Jazzar restored the crusader city.



Figure 1. Aerial photograph of a field of *Agropyron* (1980).



Map 7 - J. Kelly's map of Acre from 1850

Parthians

Bar



Map 8 - F.G. Lowick's map of Acre from 1923-5



Map 9 Winter Percy's Map of Acre from 1943

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Map 10 Kesten's map of Arc from 1962

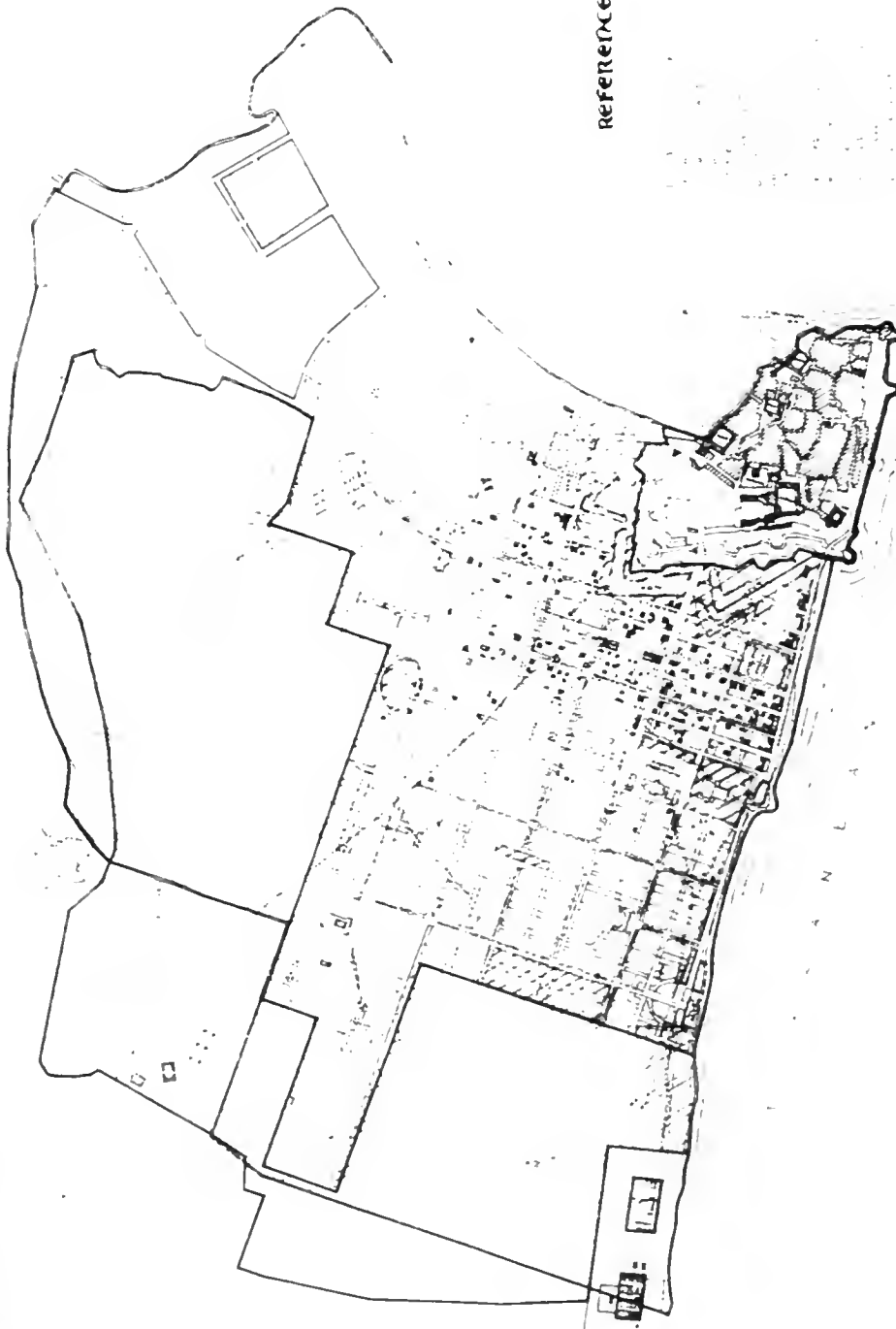
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ACRE

OUTLINE TOWN PLANNING SCHEME

SCALE 1:5000



REFERENCES



Symbol	Description
[Symbol]	Water
[Symbol]	Forest
[Symbol]	Urban area
[Symbol]	Road
[Symbol]	Railway
[Symbol]	Public building
[Symbol]	Industrial area
[Symbol]	Green space
[Symbol]	Port area

Scale 1:5000

Map 11- Map of the Modern city.

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